

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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#### The Actuarial Foundation of Canada Award

##### Junior

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

---

**Arushi Nath** – Toronto – ON

*Developing algorithms to determine asteroid's physical properties and success of deflection missions*

---

#### The Actuarial Foundation of Canada Award

##### Intermediate

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

---

**Reine Huang** – Greater Vancouver – BC

*Detecting and Preventing Human Falling with Lateral Stability*

---

#### The Actuarial Foundation of Canada Award

##### Senior

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

---

**Dolev Klein Harari** – United Counties – ON

*An Earthshattering Coding Prophecy*

---

#### 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

---

**Graeme Hopkins** – Saskatoon – SK

*Paleoecology and Geology of a Fossil-Bearing Quaternary Clay Formation New to Science*

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#### Canadian Acoustical Association Award

##### Senior

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

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**Sarah Lagarde** – North-West New Brunswick – NB

*How Playing an Instrument Benefits Youth Mental Health*

---

#### Canadian Artificial Intelligence Association Award

##### Junior

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

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**Gurnoor Kaur** – Waterloo-Wellington – ON

*MalaScope: A Deep Learning Enabled Lensless Microscope for the Rapid Detection of Malaria*

---

#### Canadian Botanical Association Award

##### Junior

Sponsor: Canadian Botanical Association  
\$500 cash and certificate

---

**Sebastian Audet** – Pacific Northwest – BC

*Seymour Lake is having a Floating Heart attack*

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## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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#### Canadian Society of Clinical Chemists Award

##### Senior

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

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**Albert Guo** – South Fraser – BC

*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*

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#### 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, for up to two student(s) of the 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.

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**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

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**Ava Fischer** – Simcoe County – ON

*exSTREAM FUNgi*

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**Baljot Rai** – Bison – MB

*Development of a Mussel-based Biosorbent for Phosphorus: The Solution to the Eutrophication Crisis*

---

#### CAP Physics Prize

##### Senior

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

---

**Afaq Virk** – United Counties – ON

*eECHOlocation: An Innovation to Mitigate Visual Impairment*

---

#### Centre for Canadian Nuclear Sustainability Award

##### Intermediate

Sponsor: Centre for Canadian Nuclear Sustainability  
\$750 cash and certificate

---

**Alia Wahban** – Bay Area – ON

*Replacing Natural Gas With Hydrogen Fuel to Power Ontario*

---

#### deutraMed Chemistry and Innovation Award

##### Junior

Sponsor: deutraMed Inc.  
\$500 cash and certificate

---

**Hudson Gibbs** – United Counties – ON

*Wait! Are the juice trucks out?*

---

#### Digital Moment Innovation Award

##### Junior

Sponsor: Digital Moment  
\$500 cash and certificate

---

**Ali Soufi, Antony Zhang** – South Fraser – BC

*Refugee Pal*

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#### Digital Moment Innovation Award

##### Intermediate

Sponsor: Digital Moment  
\$750 cash and certificate

---

**Yasmine Ben Arous** – Réseau Technoscience – QC

*Calmos*

---

#### Digital Moment Innovation Award

##### Senior

Sponsor: Digital Moment  
\$1,000 cash and certificate

---

**Aahaan Maini** – Bay Area – ON

*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

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#### Engineering Innovation Award

##### Senior

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

---

**Nik Artsimenia** – Calgary Youth – AB

*The "Helping Hand" Project*

---

#### Excellence in Astronomy Award

##### Junior

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

---

**Arushi Nath** – Toronto – ON

*Developing algorithms to determine asteroid's physical properties and success of deflection missions*

---

#### Excellence in Astronomy Award

##### Intermediate

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

---

**Alexander Abesteh** – Ottawa – ON

*Timelike and Null Geodesics around a Reissner-Nordström Black Hole*

---

#### First Nations University of Canada Award

##### Junior

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

---

**Fred McKay Campbell** – MFNERC Schools – MB

*Exploring the Potential of Juniper and Cedar as Alternative Sources for Essential Oil Extraction*

---

#### Genome Alberta and Genome Canada Award

##### Senior

Sponsor: Genome Alberta and Genome Canada  
\$1,000 cash and certificate

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**Elizabeth Chen** – Edmonton – AB

*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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#### Hydrogen Optimized Green Energy Award

##### Senior

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

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**William Chiu, Rohit Koneru** – Toronto – ON

*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

---

#### Intact Climate Change Resilience Award

##### Junior

Sponsor: Intact Financial Corporation  
\$500 cash and certificate

---

**Aryan Sharma** – Calgary Youth – AB

*A Novel Solution to Plastic Pollution*

---

#### Intact Climate Change Resilience Award

##### Intermediate

Sponsor: Intact Financial Corporation  
\$750 cash and certificate

---

**Fayhaa Kafi** – South Fraser – BC

*The Orange Brick 2.0*

---

#### 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.

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**Alyssa Anderson** – South-East New Brunswick – NB

*Phytotron Ventilation: Seedling Survival in a Changing Environment*

---

#### International Summer School for Young Physicists Award

##### Senior

Sponsor: Perimeter Institute  
Certificate and a full scholarship to participate in the International Summer School for Young Physicists 2021 (ISSYP 2021) from July 19-30.

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**Kevin Shao** – Thames Valley – ON

*Characterizing the Intrinsic Profile and Environmental Variations of the 5780Å DIB*

---

#### Nanotechnology for Sustainable Society Award

##### Junior

Sponsor: Waterloo Institute for Nanotechnology  
\$500 cash and certificate

---

**Ryvan Hammoud** – South Fraser – BC

*Smart Naloxone Kit*

---

#### Nanotechnology for Sustainable Society Award

##### Intermediate

Sponsor: Waterloo Institute for Nanotechnology  
\$750 cash and certificate

---

**Sophia Zhang** – Eastern Newfoundland – NL

*Triboelectric Nanogenerator for Wind Energy Harvesting*

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#### Nanotechnology for Sustainable Society Award

##### Senior

Sponsor: Waterloo Institute for Nanotechnology  
\$1,000 cash and certificate

---

**Hooman Reza Nezhad** – Waterloo-Wellington – ON

*From Dust to Habitation – Molten Salt Electrolysis for the In-situ Reduction of Martian Regolith*

---

#### Nutrients for Life Foundation Award

##### Junior

Sponsor: Nutrients for Life Foundation Canada  
\$500 cash and certificate

---

**Mya Hart, Violeta Mena-Lozada** – Prince Edward Island – PE

*Water is more than wet*

---

#### Renewable Energy Award

##### Junior

Sponsor: Ontario Power Generation  
\$500 cash and certificate

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**Dmytro Doroshenko, Saif Shah** – Central Alberta Rotary – AB

*Pop Can Solar Heater*

---

#### Renewable Energy Award

##### Intermediate

Sponsor: Ontario Power Generation  
\$750 cash and certificate

---

**Malachi Coonishish** – Aboriginal Québec Autochtone – QC

*How To Increase Solar Panel Energy Output*

---

#### Renewable Energy Award

##### Senior

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

---

**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

---

#### S.M. Blair Family Foundation Award

##### Junior

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

---

**Ash Dickens** – Prince Albert & Northeast Saskatchewan – SK

*C.I. Active Headband: Helping to Be Active with Cochlear Implants*

---

#### S.M. Blair Family Foundation Award

##### Intermediate

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

---

**Ashish Chettimada** – Waterloo-Wellington – ON

*ReAlign: A Novel Solution for the Early Detection and Management of Amblyopia*

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#### S.M. Blair Family Foundation Award

##### Senior

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

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

#### Shad Canada Scholarship Award

##### Intermediate

Sponsor: Shad Canada  
\$1,000 scholarship

---

**Spencer Pearce** – Western Manitoba – MB

*Noise Pollution or Productivity? Investigating the Effects of Sound on Concentration*

---

#### Shad Canada Scholarship Award

##### Intermediate

Sponsor: Shad Canada  
\$2,000 scholarship

---

**Isabelle Durepos** – Districts francophones du N.-B. – NB

*La société et tes pensées*

---

#### Shad Canada Scholarship Award

##### Intermediate

Sponsor: Shad Canada  
\$3,000 scholarship

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**Vedant Sheel** – Bluewater – ON

*A Voice For The Voiceless*

---

#### Statistical Society of Canada Award

##### Intermediate

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

---

**Jonathan Leung** – Greater Vancouver – BC

*A Survey of Spider Diversity at the University of British Columbia Farm*

---

#### Statistical Society of Canada Award

##### Senior

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

---

**Dolev Klein Harari** – United Counties – ON

*An Earthshattering Coding Prophecy*

---

#### Technology in Agriculture Award

##### Junior

Sponsor: Johnston's Grain  
\$500 cash and certificate

---

**Jordan LeBlanc** – Bay Area – ON

*Transferring Pollen Using a Mechanical Bee*

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## Canada-Wide Science Fair 2023

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#### Technology in Agriculture Award

##### Intermediate

Sponsor: Johnston's Grain  
\$750 cash and certificate

---

**Thông Quách** – Saskatoon – SK

*FlaxFloc - A Saskatchewan Plant-Based Material in Turbidity Removal for Sustainable Water Treatment*

---

#### Technology in Agriculture Award

##### Senior

Sponsor: Johnston's Grain  
\$1,000 cash and certificate

---

**Mac Dykeman** – 4-H Canada – CA

*An Innovative Approach to Ammonia Control in Poultry Operations*

---

#### University of Ottawa Undergraduate Research Scholarship Award

##### Senior

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

---

**Ava Fischer** – Simcoe County – ON

*exSTREAM FUNgi*

---

#### Excellence Award - Bronze

##### Junior

Sponsor: Youth Science Canada  
Medal and certificate

---

**Luca Agnello** – Ottawa – ON

*Énergie volcanique*

---

**Maggie Alexander** – Renfrew County – ON

*Who's Cell Phone is the Grossest?*

---

**Imran Allarakhia** – Bay Area – ON

*My SEER (Social Emotional Engaging Robot): Social Robots to Detect and Manage Student Anxiety*

---

**Sebastian Audet** – Pacific Northwest – BC

*Seymour Lake is having a Floating Heart attack*

---

**Alexandra Bishop** – Algoma Rotary – ON

*Exploring The Effectiveness of Multipurpose Toothpastes on the Oral Flora*

---

**Marshall Bobier** – Regina – SK

*R-U Insulated*

---

**Maria Brons** – Prince Albert & Northeast Saskatchewan – SK

*Eggs vs. Time*

---

**Jasmine Chow** – West Kootenay & Boundary – BC

*Can chip bags be used as an emergency blanket?*

---

**Emmersyn da Mata, Hailee Marshall** – Frontier Schools – MB

*Walk your Butt to the Can*

---

**Dexter Deheer** – Central Alberta Rotary – AB

*Can you Crypto Mine with a RaspberryPi?*

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**Claire Friesen** – Central Alberta Rotary – AB

*The Way It Flows: Laminar vs. Turbulent*

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**Deepraj Singh Gill** – Fraser Valley – BC

*How a Commercial Jetliner Functions*

---

**Safwan Hussain** – Waterloo-Wellington – ON

*Building a Multiclass Brain Tumor Classification Model using a Convolutional Neural Network (CNN)*

---

**Jeffrey Ion** – Bay Area – ON

*Think Fast!*

---

**Abigail Jennings** – Ottawa – ON

*Dress up: Gender Bias in Character Design*

---

**Ben Kawa** – Sudbury – ON

*Driver Wake Up!*

---

**Emily Krause, E'lise Nguyen** – Ottawa – ON

*M.E.P.*

---

**William Li** – West Kootenay & Boundary – BC

*Centrifugal Space Fitness Center*

---

**Ariel Mason** – Calgary Youth – AB

*Using Machine Learning to Detect Breast Cancer*

---

**Khafri Mau** – Greater Vancouver – BC

*The First Step to Growing Plants on Mars*

---

**Emily McKenna** – Winnipeg Schools – MB

*Compaction Action: Measuring the effect of additives on soil compaction*

---

**Sia Mehta** – Simcoe County – ON

*Glaze the Roof*

---

**Daniel Nashed** – Manitoba Schools Science Symposium – MB

*Which one soundproofs best?*

---

**Shail Patel** – Frontenac, Lennox & Addington – ON

*Dextera: An Affordable, Functional, Myoelectric Prosthetic Hand*

---

**Zenia Pereira, Nandika Senthilkumar** – Edmonton – AB

*Alex, the AI that Doesn't Exist*

---

**Maggie Polischuk** – Sudbury – ON

*'Steer Clear' The Break-Away Steering Wheel!*

---

**Hanna Ryan** – Yukon Stikine – YT

*What's the best way to dry your hands?*

---

**Ayana Torres** – Ottawa – ON

*Amélioration de toiture: déflecteur de vent*

---

**Jack Washburn** – Frontenac, Lennox & Addington – ON

*Sham(e)poo: Clean Hair without the Dirty Secret Ingredients of Commercial Shampoos*

---

**Mark Wendland** – Renfrew County – ON

*Tank Battles in 2D & 3D*



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## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

#### Excellence Award - Bronze

##### Intermediate

Sponsor: Youth Science Canada

Medal and certificate

---

**Alexander Abesteh** – Ottawa – ON

*Timelike and Null Geodesics around a Reissner-Nordström Black Hole*

---

**Munir Al-Taher** – Canadian Black Scientists Network Youth – CA

*Changing the way we refill electric cars*

---

**Wafaa Amin, Asia Urquhart** – Halifax – NS

*A Novel Study of Physiological and Social Relation with Low-Valence Emotions: Pediatric PCEST Care*

---

**Kaitlyn Chan** – Vancouver Island – BC

*Greening the Flames: Investigating the abilities of plants to reduce the impact of wildfires*

---

**Armaan Chaudhari** – Western Manitoba – MB

*Antibiotics: Synthetic and Natural*

---

**Aiyaan Faisal** – Winnipeg Schools – MB

*Exploration of Genetic Algorithm for Function Optimization*

---

**Swas Ghosh** – Northern British Columbia – BC

*Green Pools of CO<sub>2</sub>: The Effects of CO<sub>2</sub> on Household Plants*

---

**Angelina Hang, Noah Oliver Pang** – Greater Vancouver – BC

*Turning Algae Into Fibers: The Solution to Textile Waste*

---

**Micah Hansen** – Peace Country – AB

*Homemade Fertilizers*

---

**Nycea Hazelwood** – Lethbridge – AB

*Biomagnification – When a little becomes a lot*

---

**Reine Huang** – Greater Vancouver – BC

*Detecting and Preventing Human Falling with Lateral Stability*

---

**Sterling Huang, Ethan Xu** – Toronto – ON

*HydroElectrica: Water Purification + Dual Electricity Generation System*

---

**Nimish Jain** – Greater Vancouver – BC

*Highly Evolved Lip Learning mOdel (HELLO): A Novel Machine Learning Model for Accurate Lipreading.*

---

**Tanya Jivani, Lalithya Raavi** – Wood Buffalo – AB

*From Raw to Cooked: Exploring Cooking Methods on Ascorbic Acid Retention in Tomatoes*

---

**Sophie Kong** – Prince Edward Island – PE

*Soil Microbial Fuel Cell*

---

**William Larder** – Annapolis Valley – NS

*Culvert Remediation for Fish Passage in Barkhouse Brook*

---

**Anna Lawand** – Cape Breton – NS

*Natural Antibiotics Comparison Experiment*

---

**Maya LeBlanc** – Bay Area – ON

*Nitrous Oxide Reduction in an Industrial Wet Scrubber Utilizing NosZ Reductase and *P. denitrificans**

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## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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**Jad Menkara** – Windsor – ON

*Novel Thermoelectric Generator for Automobile Exhaust Waste Heat Recovery*

---

**Katharine Morley** – Vancouver Island – BC

*Plastered Plants Defeat Drought: Exploring the effects of ethanol on drought resistance in plants*

---

**Alpita Patro** – Eastern Newfoundland – NL

*Investigating the Antibacterial Activity of Natural Remedies Against Non-Pathogenic E. coli*

---

**Izabela Quest** – Frontenac, Lennox & Addington – ON

*Stopping Cancer in its Tracks: How does fructose enable cancer cell metastasis?*

---

**Mohamed Saleh** – Windsor – ON

*Pumpkin Plastic: An Innovative Bioplastic to Replace Petroleum-based Plastic*

---

**Rishi Shah** – Thames Valley – ON

*From Pixels to Precision*

---

**Roocha Shukla** – Waterloo-Wellington – ON

*The Power that Brings Flowers*

---

**Prabhdeep Singh** – Thames Valley – ON

*Asion: An ML-powered Sky Navigation and Constellation Recognition System*

---

**Ella Strachan** – Winnipeg Schools – MB

*Mapping Microplastics: Computer Modelling to Predict & Address Microplastic Accumulation in Lakes*

---

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

*La conservation des chauves-souris, un défi de taille !*

---

**Beth Tubman** – Strait – NS

*From Flower to Flavour – How pollen type affects honey*

---

**Brian Yin** – Bay Area – ON

*Student Engagement Rewards System*

---

### Excellence Award - Bronze

#### Senior

Sponsor: Youth Science Canada

Medal and certificate

---

**Hannah Allen** – South Shore – NS

*Food for Thought*

---

**Hadlea Bradbury** – Simcoe County – ON

*Gluten Tox*

---

**Joshua Chow** – Calgary Youth – AB

*How Your Weight Could Be Putting You at Risk: Unraveling the Link between BMI and Colorectal Adenomas*

---

**Maria Chzhen** – Bay Area – ON

*Comparison of Regression Algorithms in Multivariable Drought Modeling and Analysis*

---

**Emma Coakley** – South-East New Brunswick – NB

*Inflatable Pouch Motors in Upper Limb Prosthetics*

---

**Julia Dargacz** – Niagara – ON

*The Progress Towards the Synthesis of Silatrane Lipid Head Groups*

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## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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**Sietse de Backer** – Prince Edward Island – PE

*Synced Up: Comparing Methods to Scale Synchronized Servers*

---

**Justin Du** – Greater Vancouver – BC

*Intersect: Aggregated Note Summarization by Machine Learning*

---

**Mac Dykeman** – 4-H Canada – CA

*An Innovative Approach to Ammonia Control in Poultry Operations*

---

**Ava Haynes** – Saskatchewan First Nations – SK

*Cyanobacteria*

---

**Evan Howells** – Yukon Stikine – YT

*Flight of the Bumble Bee: Comparing pollen foraging patterns of bumble bees and honey bees in Yukon*

---

**Kaleb Hussey** – South-East New Brunswick – NB

*The Effect of Weight Configuration and Load Knowledge on Trunk Motion in Adolescents*

---

**Pathomphu Kanapornthada, Nutdanai Sunanthakhantharot** – Thailand – IN

*SAFEFALL: Fall Detection System using 3D Human Skeleton Model*

---

**Liz Krelove, Karys Littlejohns** – Simcoe County – ON

*Investigating the effects of stimulants and depressants in aquatic pollutants on *Daphnia magna**

---

**Jonathan Li** – Frontenac, Lennox & Addington – ON

*Depressed or Not? Using Large Language Models to Predict Depression from Social Media Posts*

---

**Ziang Li** – Bay Area – ON

*I.C.: Predict Food Recipe from Image using CNN/Transformer & Knowledge Distillation for Portability*

---

**Shayan Mahmood** – Thames Valley – ON

*Morphological Characterization of Imaged iPSC-Derived Endothelial Cells Using Machine Learning*

---

**Renzo Masiclat** – Southeast Alberta – AB

*Cranberries: A Potential Treatment and Prophylaxis Against Urinary Tract Infections*

---

**Rylie McGrath** – South-East New Brunswick – NB

*The Moss Pit: Comparing the performance of three moss species local to Saint John on two substrates*

---

**Nila Munro, Donell O'Connor** – Strait – NS

*Waste Not, Want Not; Enhancing Nuclear Energy Output*

---

**Anush Mutyala** – Peel – ON

*Energyspike: Pioneering Wireless Mind-Control Implants using Energy-Efficient Neuromorphic Computing*

---

**Annika Paliwal** – Bison – MB

*A Long-Term Study Using Serious Games to Diagnose and Treat Dementia*

---

**Ria Patel** – Ottawa – ON

*The Spark of Life: Exploration of neuromuscular junctions, insulin secretion, and cardiac regulation*

---

**William Rodgers, Rylan Wainman** – Beaufort-Delta – NT

*Steroid Use*

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---

**Misimi Sanni** – Bay Area – ON

*Emerging Prosthetics: The Novel Development of a Cost-Effective Electronic Prosthetic Arm*

---

**Adara Shilling** – Greater Vancouver – BC

*Plastic Roots*

---

**Rodin Shokravi, Kevin Yuan** – Greater Vancouver – BC

*A Novel System: Replicating Materials' Arithmetic Mean Height Using LRAs & Piezo Elements*

---

**Jonas Tkacz** – Conseil scolaire acadien provincial – NS

*Un vaccin informatique: l'utilisation de l'intelligence artificielle pour combattre les virus*

---

**Afaq Virk** – United Counties – ON

*eECHOlocation: An Innovation to Mitigate Visual Impairment*

---

**Errita Xu** – Toronto – ON

*Road Salt: Its Implications and Exploring Agro-Based Alternatives*

---

**Aaron Zhao** – Greater Vancouver – BC

*ExoTremor: A Low-Cost, 3D-Printed Exoskeleton that Suppresses Hand Tremors in Movement Disorder Patients*

---

#### Excellence Award - Silver

##### Junior

Sponsor: Youth Science Canada

Medal and certificate

---

**Patrick Casey** – Prince Edward Island – PE

*Printer vs. Cinder*

---

**Amy Clark** – Manitoba Schools Science Symposium – MB

*What is radiation?*

---

**Riley Edmunds** – Lambton County – ON

*One Drop at a Time: How effective are biodegradable filters?*

---

**Anthony Efthimiadis** – Bay Area – ON

*Diagnostic Screening of Basal Cell Carcinoma Cancer With AI*

---

**Tahlia Feldman** – Simcoe County – ON

*Battery Catastrophe*

---

**Ryhan Hammoud** – South Fraser – BC

*Smart Naloxone Kit*

---

**Kathy Han** – Saskatoon – SK

*Hidden Dangers in Plain Sight: Investigating Pathogenic Bacteria in Household Plant Soil*

---

**Nara Harvey** – Greater Vancouver – BC

*A Biological Solution to Phosphate and Nitrate Pollution*

---

**Ethan Hon** – York – ON

*Carbon Nanotubes and their Applications in Agriculture*

---

**Blake Howes, Madelyn Howes** – Bluewater – ON

*The Science of Smiles*

---

**Jacob LeBlanc** – Bay Area – ON

*Sustainability Metrics for Consumer Products Using Open-Source Data, Python and QR Code Technology*

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**Anne Mister, Annabelle Tasset-Scherer** – Ottawa – ON

*Gérons le son!*

---

**Alyssa Morena** – Ottawa – ON

*Hydrogen Fuel of the Future – Dry Hydrogen Storage*

---

**Thomas Mullaly, Arthur Queiroz** – Sudbury – ON

*Can worms be a part of the Styrofoam pollution solution?*

---

**Cyndi Rayson** – Lambton County – ON

*Bioremediation to the Rescue: An Environmental Solution to Pollution*

---

**Madhav Saravanan** – Peel – ON

*Microplastics, Macro Problem*

---

**Layla Sawan** – Thames Valley – ON

*GreenGenie Composting System*

---

**Aryan Sharma** – Calgary Youth – AB

*A Novel Solution to Plastic Pollution*

---

**Sehar Sidhu** – Windsor – ON

*ChatGPT is everywhere: Is this AI chatbot a friend or foe?*

---

**Sara Waqas** – Calgary Youth – AB

*Can Bioengineering Alter Genetic Mutations and Create Organs Using Stem Cells?*

---

#### Excellence Award - Silver

##### Intermediate

Sponsor: Youth Science Canada

Medal and certificate

---

**Joy Akinkunmi** – Canadian Black Scientists Network Youth – CA

*Pill Smart*

---

**Shayan Awan** – Wood Buffalo – AB

*TM&R Band: Age with Confidence*

---

**Yasmine Ben Arous** – Réseau Technoscience – QC

*Calmos*

---

**Vaishu Bhathala Venkata** – Saskatchewan Chinook – SK

*MonstorMunch: The Solution To Childhood Obesity?*

---

**Chloe Fillion, Sophie Fillion** – Niagara – ON

*The Digital Air Rifle Ballistic Measuring Device*

---

**Ila Giroux, Kavi Giroux** – Algoma Rotary – ON

*Drone Assisted Orchard Assessment*

---

**Anqi Guan** – Manitoba Schools Science Symposium – MB

*Smart Farming: Self-Powered Hydrogel as a Fertilizer for Plant Growth*

---

**Mateo Jarquin** – Réseau Technoscience – QC

*Need a hand with that?*

---

**Maryam Khanum** – Northern British Columbia – BC

*Feasibility Assessment of MFC to Treat Oil and Gas Produced Water and Generate Electricity*

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**Sarah Murimboh** – Annapolis Valley – NS

*The Effects of Humidity and Temperature on Deformities in Tenebrio molitor*

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**Spencer Pearce** – Western Manitoba – MB

*Noise Pollution or Productivity? Investigating the Effects of Sound on Concentration*

---

**Justin Peng** – Greater Vancouver – BC

*Atmos: A Neural Edge-Cloud Visual to Auditory Spatial Augmentation Device for the Visually Impaired*

---

**Kadhir Ponnambalam** – Bay Area – ON

*Electrotaxis of the Tardigrade Species *Hypsibius exemplaris* in a Microfluidic Environment*

---

**Thông Quách** – Saskatoon – SK

*FlaxFloc - A Saskatchewan Plant-Based Material in Turbidity Removal for Sustainable Water Treatment*

---

**Nishka Rai** – Wood Buffalo – AB

*F.R.O.S.T. – Frostbite Risk Observation & Safety Technology*

---

**Vedant Sheel** – Bluewater – ON

*A Voice For The Voiceless*

---

**Danill Tyurin** – Calgary Youth – AB

*The Feasibility and Prototyping of a Mechanical Counterpressure EVA Space Suit*

---

**Ann Wang** – Greater Vancouver – BC

*Battling Bacterial Biofilms*

---

**Justin Yu** – Fraser Valley – BC

*Zap the Lead Problem! Cost-effective and Immediate Electrochemical Pipe Scale Accelerator*

---

**Sophia Zhang** – Eastern Newfoundland – NL

*Triboelectric Nanogenerator for Wind Energy Harvesting*

---

### Excellence Award - Silver

#### Senior

Sponsor: Youth Science Canada

Medal and certificate

---

**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

---

**Nik Artsimonia** – Calgary Youth – AB

*The "Helping Hand" Project*

---

**Jason Bae** – Bay Area – ON

*ADHD Treatment: Investigating the Effectiveness of Fine Motor Learning on Frontal Lobe Activity*

---

**Sam Bae** – Bay Area – ON

*Creating bioplastic that promotes the most effective filtration of atmospheric aerosol particles*

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**Tanish Bhatt** – Eastern Newfoundland – NL

*An Immunoinformatics-based Approach to Identifying a Theoretical Vaccine Against SARS-CoV-2 Variants*

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**Keanu Chan** – East Kootenay – BC

*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

---

**William Chiu, Rohit Koneru** – Toronto – ON

*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Jonathan Gong** – South Fraser – BC

*COVID-19 Chest X-ray Image Classification and Improved U-Net Segmentation*

---

**Vinny Gu** – York – ON

*DermaScan: A Novel Approach to Skin Cancer Classification and Detection Using ML Models*

---

**Albert Guo** – South Fraser – BC

*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*

---

**Aaryan Harshith** – Sudbury – ON

*LightIR: An Intraoperative Probe to Enhance Tumour Resections*

---

**Graeme Hopkins** – Saskatoon – SK

*Paleoecology and Geology of a Fossil-Bearing Quaternary Clay Formation New to Science*

---

**Daiying Li** – Toronto – ON

*GMCVD: Detecting key gut microbiota to reduce cardiovascular disease risk for precise prevention*

---

**Rebecca Li** – Réseau Technoscience – QC

*Cyrene and Neurodegeneration*

---

**Marissa Magsino** – Manitoba Schools Science Symposium – MB

*Manipulating *Tenebrio molitor* with chemical compounds to maximize the biodegradation of polystyrene*

---

**Aahaan Maini** – Bay Area – ON

*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

---

**Hooman Reza Nezhad** – Waterloo-Wellington – ON

*From Dust to Habitation – Molten Salt Electrolysis for the In-situ Reduction of Martian Regolith*

---

**Kevin Shao** – Thames Valley – ON

*Characterizing the Intrinsic Profile and Environmental Variations of the 5780Å DIB*

---

**Prabhnoor Sidhu** – Central Interior BC – BC

*Mitigating the Effects of Debris Flows: Part Two*

---

**Evan Warburton** – Vancouver Island – BC

*The Dual Dipole Radio Telescope*

---

### Excellence Award - Gold

#### Junior

Sponsor: Youth Science Canada

Medal and certificate

---

**Caroline Chan** – Toronto – ON

*RecycleBot: An AI Enabled Waste Sorting Trash Can*

---

**Justin Guo** – Greater Vancouver – BC

*What Method of Meat Thawing Results in Least Bacterial Contamination?*

---

**Richard Ilioukevitch** – Northwest Saskatchewan – SK

*The Rescue Rangers Autonomous Robotic Search and Rescue System*

---

**Gurnoor Kaur** – Waterloo-Wellington – ON

*MalaScope: A Deep Learning Enabled Lensless Microscope for the Rapid Detection of Malaria*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Jordan LeBlanc** – Bay Area – ON  
*Transferring Pollen Using a Mechanical Bee*

---

**Andrei Marti** – Vancouver Island – BC  
*Sweet Scores*

---

**Arushi Nath** – Toronto – ON  
*Developing algorithms to determine asteroid's physical properties and success of deflection missions*

---

**Harry Nickerson** – Halifax – NS  
*Do You Really See What Eye See?*

---

**Adelyn Noh** – Edmonton – AB  
*Latherin' Up Your Mind: Priming Humans and AI*

---

**Annika Saini** – Calgary Youth – AB  
*A DIY Air Purifier To Clean Particulate Matter and Chemicals from Household Air*

---

#### Excellence Award - Gold

##### Intermediate

Sponsor: Youth Science Canada  
Medal and certificate

---

**Noah Bryan** – Canadian Black Scientists Network Youth – CA  
*The Phage Takes Centre Stage for Water Quality Testing!*

---

**Tesko Chaganti** – YSC Virtual – CA  
*The Secrets of Healthy Aging: Discovery of Novel & Natural Senolytic PI3K Inhibitors*

---

**Ashish Chettimada** – Waterloo-Wellington – ON  
*ReAlign: A Novel Solution for the Early Detection and Management of Amblyopia*

---

**Veronica Guo** – Greater Vancouver – BC  
*Biological Photovoltaics: Testing Algae for the Optimal Battery*

---

**Renata Hollander** – Calgary Youth – AB  
*The Mathematics of Language Through History: Does Zipf's Law Always Apply?*

---

**Fayhaa Kafi** – South Fraser – BC  
*The Orange Brick 2.0*

---

**Jonathan Leung** – Greater Vancouver – BC  
*A Survey of Spider Diversity at the University of British Columbia Farm*

---

**Mateo Mathenge** – Halifax – NS  
*Green Energy: The answer is blowing in the wind*

---

**Yurui Qin** – Saskatoon – SK  
*A Novel Approach to Using Artificial Intelligence to Aid the Hearing Impaired*

---

**Bram St. Peters** – Halifax – NS  
*Could moon colonists add human biosolids or sand to lunar soil to increase food production on the moon?*

---

#### Excellence Award - Gold

##### Senior

Sponsor: Youth Science Canada  
Medal and certificate

---

**Alyssa Anderson** – South-East New Brunswick – NB  
*Phytotron Ventilation: Seedling Survival in a Changing Environment*



# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

**Elizabeth Chen** – Edmonton – AB

*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

---

**Ryan Cullen** – Eastern Newfoundland – NL

*Simulating Le Chatelier's Principle*

---

**Safia Deol** – Lambton County – ON

*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

---

**Ava Fischer** – Simcoe County – ON

*exSTREAM FUNgi*

---

**Heather Kornylo** – Northern Vancouver Island – BC

*Auto-Pend Lab*

---

**Thomas Murimboh** – Annapolis Valley – NS

*The Best Cell Provider! An Evaluation of Probiotic Products*

---

**Jasmin Pelletier** – Réseau Technoscience – QC

*As-tu le profil d'un gagnant?*

---

**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN

*Tlaolli Xiuhtic*

---

**Camela Temacini** – Niagara – ON

*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

#### Challenge Award - Agriculture, Fisheries and Food

##### Junior

Sponsor: Youth Science Canada

Certificate

---

**Jordan LeBlanc** – Bay Area – ON

*Transferring Pollen Using a Mechanical Bee*

---

#### Challenge Award - Agriculture, Fisheries and Food

##### Intermediate

Sponsor: Youth Science Canada

Certificate

---

**Ila Giroux, Kavi Giroux** – Algoma Rotary – ON

*Drone Assisted Orchard Assessment*

---

#### Challenge Award - Agriculture, Fisheries and Food

##### Senior

Sponsor: Youth Science Canada

Certificate

---

**Hannah Allen** – South Shore – NS

*Food for Thought*

---

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

#### Challenge Award - Curiosity and Ingenuity

##### Junior

Sponsor: Youth Science Canada  
Certificate

---

**Arushi Nath** – Toronto – ON

*Developing algorithms to determine asteroid's physical properties and success of deflection missions*

---

#### Challenge Award - Curiosity and Ingenuity

##### Intermediate

Sponsor: Youth Science Canada  
Certificate

---

**Bram St. Peters** – Halifax – NS

*Could moon colonists add human biosolids or sand to lunar soil to increase food production on the moon?*

---

#### Challenge Award - Curiosity and Ingenuity

##### Senior

Sponsor: Youth Science Canada  
Certificate

---

**Heather Kornylo** – Northern Vancouver Island – BC

*Auto-Pend Lab*

---

#### Challenge Award - Digital Technology

##### Junior

Sponsor: Youth Science Canada  
Certificate

---

**Richard Ilioukevitch** – Northwest Saskatchewan – SK

*The Rescue Rangers Autonomous Robotic Search and Rescue System*

---

#### Challenge Award - Digital Technology

##### Intermediate

Sponsor: Youth Science Canada  
Certificate

---

**Yurui Qin** – Saskatoon – SK

*A Novel Approach to Using Artificial Intelligence to Aid the Hearing Impaired*

---

#### Challenge Award - Digital Technology

##### Senior

Sponsor: Youth Science Canada  
Certificate

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

#### Challenge Award - Disease and Illness

##### Junior

Sponsor: Youth Science Canada  
Certificate

---

**Andrei Marti** – Vancouver Island – BC

*Sweet Scores*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

#### Challenge Award - Disease and Illness

##### Intermediate

Sponsor: Youth Science Canada  
Certificate

---

**Tesko Chaganti** – YSC Virtual – CA

*The Secrets of Healthy Aging: Discovery of Novel & Natural Senolytic PI3K Inhibitors*

---

#### Challenge Award - Disease and Illness

##### Senior

Sponsor: Youth Science Canada  
Certificate

---

**Elizabeth Chen** – Edmonton – AB

*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

---

#### Challenge Award - Energy

##### Junior

Sponsor: Youth Science Canada  
Certificate

---

**Alyssa Morena** – Ottawa – ON

*Hydrogen Fuel of the Future – Dry Hydrogen Storage*

---

#### Challenge Award - Energy

##### Intermediate

Sponsor: Youth Science Canada  
Certificate

---

**Veronica Guo** – Greater Vancouver – BC

*Biological Photovoltaics: Testing Algae for the Optimal Battery*

---

#### Challenge Award - Energy

##### Senior

Sponsor: Youth Science Canada  
Certificate

---

**William Chiu, Rohit Koneru** – Toronto – ON

*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

---

#### Challenge Award - Environment and Climate Change

##### Junior

Sponsor: Youth Science Canada  
Certificate

---

**Annika Saini** – Calgary Youth – AB

*A DIY Air Purifier To Clean Particulate Matter and Chemicals from Household Air*

---

#### Challenge Award - Environment and Climate Change

##### Intermediate

Sponsor: Youth Science Canada  
Certificate

---

**Noah Bryan** – Canadian Black Scientists Network Youth – CA

*The Phage Takes Centre Stage for Water Quality Testing!*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

#### Challenge Award - Environment and Climate Change

##### Senior

Sponsor: Youth Science Canada  
Certificate

---

**Ava Fischer** – Simcoe County – ON  
*exSTREAM FUNgi*

---

#### Challenge Award - Health and Wellness

##### Junior

Sponsor: Youth Science Canada  
Certificate

---

**Tahlia Feldman** – Simcoe County – ON  
*Battery Catastrophe*

---

#### Challenge Award - Health and Wellness

##### Intermediate

Sponsor: Youth Science Canada  
Certificate

---

**Nishka Rai** – Wood Buffalo – AB  
*F.R.O.S.T. – Frostbite Risk Observation & Safety Technology*

---

#### Challenge Award - Health and Wellness

##### Senior

Sponsor: Youth Science Canada  
Certificate

---

**Safia Deol** – Lambton County – ON  
*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

---

#### Challenge Award - Natural Resources

##### Junior

Sponsor: Youth Science Canada  
Certificate

---

**Caroline Chan** – Toronto – ON  
*RecycleBot: An AI Enabled Waste Sorting Trash Can*

---

#### Challenge Award - Natural Resources

##### Intermediate

Sponsor: Youth Science Canada  
Certificate

---

**Sophia Zhang** – Eastern Newfoundland – NL  
*Triboelectric Nanogenerator for Wind Energy Harvesting*

---

#### Sanofi Biogenius Canada Award

##### Junior

Sponsor: Sanofi Canada  
\$500 cash and certificate

---

**Soleil Brookes** – Pacific Northwest – BC  
*Moss Filters: How They Affect Air Quality*

---

**Aryan Sharma** – Calgary Youth – AB  
*A Novel Solution to Plastic Pollution*

---

**Sara Waqas** – Calgary Youth – AB  
*Can Bioengineering Alter Genetic Mutations and Create Organs Using Stem Cells?*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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#### Sanofi Biogenius Canada Award

##### Intermediate

Sponsor: Sanofi Canada  
\$750 cash and certificate

---

**Noah Bryan** – Canadian Black Scientists Network Youth – CA  
*The Phage Takes Centre Stage for Water Quality Testing!*

---

**Katelynn Standell** – Southeast Alberta – AB  
*Set Phages to Kill: The Next Step in AMR*

---

**Ann Wang** – Greater Vancouver – BC  
*Battling Bacterial Biofilms*

---

#### Sanofi Biogenius Canada Award

##### Senior

Sponsor: Sanofi Canada  
\$1,000 cash and certificate

---

**Emily Baker** – Labrador, Western and Central NL – NL  
*The Creden-SHELLS for a Plastic Replacement*

---

**Safia Deol** – Lambton County – ON  
*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

---

**Marissa Magsino** – Manitoba Schools Science Symposium – MB  
*Manipulating *Tenebrio molitor* with chemical compounds to maximize the biodegradation of polystyrene*

---

#### Youth Can Innovate Award

##### Junior

Sponsor: Gwyn Morgan & Patricia Trottier Foundation  
\$500 cash, presentation award and certificate

---

**Tahlia Feldman** – Simcoe County – ON  
*Battery Catastrophe*

---

**Richard Ilioukevitch** – Northwest Saskatchewan – SK  
*The Rescue Rangers Autonomous Robotic Search and Rescue System*

---

**Gurnoor Kaur** – Waterloo-Wellington – ON  
*MalaScope: A Deep Learning Enabled Lensless Microscope for the Rapid Detection of Malaria*

---

**Arushi Nath** – Toronto – ON  
*Developing algorithms to determine asteroid's physical properties and success of deflection missions*

---

#### Youth Can Innovate Award

##### Intermediate

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

---

**Ashish Chettimada** – Waterloo-Wellington – ON  
*ReAlign: A Novel Solution for the Early Detection and Management of Amblyopia*

---

**Chloe Filion, Sophie Filion** – Niagara – ON  
*The Digital Air Rifle Ballistic Measuring Device*

---

**Veronica Guo** – Greater Vancouver – BC  
*Biological Photovoltaics: Testing Algae for the Optimal Battery*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Yurui Qin** – Saskatoon – SK

*A Novel Approach to Using Artificial Intelligence to Aid the Hearing Impaired*

---

#### Youth Can Innovate Award

##### Senior

Sponsor: Gwyn Morgan & Patricia Trottier Foundation

\$1,000 cash award

---

**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

**Keanu Chan** – East Kootenay – BC

*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

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**Safia Deol** – Lambton County – ON

*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

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**Jonathan Gong** – South Fraser – BC

*COVID-19 Chest X-ray Image Classification and Improved U-Net Segmentation*

---

**Vinny Gu** – York – ON

*DermaScan: A Novel Approach to Skin Cancer Classification and Detection Using ML Models*

---

**Albert Guo** – South Fraser – BC

*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*

---

**Aahaan Maini** – Bay Area – ON

*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

---

#### Youth Can Innovate Award

##### Senior

Sponsor: Gwyn Morgan & Patricia Trottier Foundation

Additional \$7,000 cash award

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

**Keanu Chan** – East Kootenay – BC

*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

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**Albert Guo** – South Fraser – BC

*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*

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**Aahaan Maini** – Bay Area – ON

*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

---

#### Platinum Award - Discovery

##### Junior

Sponsor: Youth Science Canada

Crystal award

---

**Andrei Marti** – Vancouver Island – BC

*Sweet Scores*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

#### Platinum Award - Discovery

##### Intermediate

Sponsor: Youth Science Canada  
Crystal award

---

**Noah Bryan** – Canadian Black Scientists Network Youth – CA  
*The Phage Takes Centre Stage for Water Quality Testing!*

---

#### Platinum Award - Innovation

##### Intermediate

Sponsor: Youth Science Canada  
Crystal award

---

**Yurui Qin** – Saskatoon – SK  
*A Novel Approach to Using Artificial Intelligence to Aid the Hearing Impaired*

---

#### Platinum Award - Innovation

##### Senior

Sponsor: Youth Science Canada  
Crystal award

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON  
*Nail Braille: A Novel Approach Towards Braille Education*

---

#### Best Project Award - Discovery

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

---

**Elizabeth Chen** – Edmonton – AB  
*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

---

#### Best Project Award - Innovation

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

---

**Arushi Nath** – Toronto – ON  
*Developing algorithms to determine asteroid's physical properties and success of deflection missions*

---

#### Dalhousie University Faculty of Science Entrance Scholarship

##### Senior

Sponsor: Dalhousie University, Faculty of Science  
Senior Gold Medallist - \$5000 Entrance Scholarship

---

**Alyssa Anderson** – South-East New Brunswick – NB  
*Phytotron Ventilation: Seedling Survival in a Changing Environment*

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON  
*Nail Braille: A Novel Approach Towards Braille Education*

---

**Elizabeth Chen** – Edmonton – AB  
*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

---

**Ryan Cullen** – Eastern Newfoundland – NL  
*Simulating Le Chatelier's Principle*

---

**Safia Deol** – Lambton County – ON  
*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

---

**Ava Fischer** – Simcoe County – ON  
*exSTREAM FUNgi*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Heather Kornylo** – Northern Vancouver Island – BC  
*Auto-Pend Lab*

---

**Thomas Murimboh** – Annapolis Valley – NS  
*The Best Cell Provider! An Evaluation of Probiotic Products*

---

**Jasmin Pelletier** – Réseau Technoscience – QC  
*As-tu le profil d'un gagnant?*

---

**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN  
*Tlaolli Xiuhtic*

---

**Camela Temacini** – Niagara – ON  
*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

#### Dalhousie University Faculty of Science Entrance Scholarship

##### Senior

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

---

**Mariane Angers** – Réseau Technoscience – QC  
*Vert Houlo, Wh*

---

**Nik Artsimonia** – Calgary Youth – AB  
*The "Helping Hand" Project*

---

**Jason Bae** – Bay Area – ON  
*ADHD Treatment: Investigating the Effectiveness of Fine Motor Learning on Frontal Lobe Activity*

---

**Sam Bae** – Bay Area – ON  
*Creating bioplastic that promotes the most effective filtration of atmospheric aerosol particles*

---

**Tanish Bhatt** – Eastern Newfoundland – NL  
*An Immunoinformatics-based Approach to Identifying a Theoretical Vaccine Against SARS-CoV-2 Variants*

---

**Keanu Chan** – East Kootenay – BC  
*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

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**William Chiu, Rohit Koneru** – Toronto – ON  
*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

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**Jonathan Gong** – South Fraser – BC  
*COVID-19 Chest X-ray Image Classification and Improved U-Net Segmentation*

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---

**Aaryan Harshith** – Sudbury – ON  
*LightIR: An Intraoperative Probe to Enhance Tumour Resections*

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**Graeme Hopkins** – Saskatoon – SK  
*Paleoecology and Geology of a Fossil-Bearing Quaternary Clay Formation New to Science*



# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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**Daiying Li** – Toronto – ON

*GMCVD: Detecting key gut microbiota to reduce cardiovascular disease risk for precise prevention*

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**Rebecca Li** – Réseau Technoscience – QC

*Cyrene and Neurodegeneration*

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**Marissa Magsino** – Manitoba Schools Science Symposium – MB

*Manipulating *Tenebrio molitor* with chemical compounds to maximize the biodegradation of polystyrene*

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*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

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**Hooman Reza Nezhad** – Waterloo-Wellington – ON

*From Dust to Habitation – Molten Salt Electrolysis for the In-situ Reduction of Martian Regolith*

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**Kevin Shao** – Thames Valley – ON

*Characterizing the Intrinsic Profile and Environmental Variations of the 5780Å DIB*

---

**Prabhnoor Sidhu** – Central Interior BC – BC

*Mitigating the Effects of Debris Flows: Part Two*

---

**Evan Warburton** – Vancouver Island – BC

*The Dual Dipole Radio Telescope*

---

#### UBC Science (Vancouver) Entrance Award

##### Senior

Sponsor: University of British Columbia (Vancouver)

Senior Gold Medallist - \$4000 Entrance Award

---

**Alyssa Anderson** – South-East New Brunswick – NB

*Phytotron Ventilation: Seedling Survival in a Changing Environment*

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

**Elizabeth Chen** – Edmonton – AB

*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

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**Ryan Cullen** – Eastern Newfoundland – NL

*Simulating Le Chatelier's Principle*

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**Safia Deol** – Lambton County – ON

*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

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**Ava Fischer** – Simcoe County – ON

*exSTREAM FUNgi*

---

**Heather Kornyo** – Northern Vancouver Island – BC

*Auto-Pend Lab*

---

**Thomas Murimboh** – Annapolis Valley – NS

*The Best Cell Provider! An Evaluation of Probiotic Products*

---

**Jasmin Pelletier** – Réseau Technoscience – QC

*As-tu le profil d'un gagnant?*

---

**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN

*Tlaolli Xiuhtic*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Camela Temacini** – Niagara – ON

*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

#### University of Alberta Entrance Scholarship

Sponsor:

Bronze Medallist - \$1,500 Entrance Scholarship

---

**Alexander Abesteh** – Ottawa – ON

*Timelike and Null Geodesics around a Reissner-Nordström Black Hole*

---

**Luca Agnello** – Ottawa – ON

*Énergie volcanique*

---

**Joy Akinkunmi** – Canadian Black Scientists Network Youth – CA

*Pill Smart*

---

**Munir Al-Taher** – Canadian Black Scientists Network Youth – CA

*Changing the way we refill electric cars*

---

**Maggie Alexander** – Renfrew County – ON

*Who's Cell Phone is the Grossest?*

---

**Imran Allarakhia** – Bay Area – ON

*My SEER (Social Emotional Engaging Robot): Social Robots to Detect and Manage Student Anxiety*

---

**Hannah Allen** – South Shore – NS

*Food for Thought*

---

**Wafaa Amin, Asia Urquhart** – Halifax – NS

*A Novel Study of Physiological and Social Relation with Low-Valence Emotions: Pediatric PCEST Care*

---

**Alyssa Anderson** – South-East New Brunswick – NB

*Phytotron Ventilation: Seedling Survival in a Changing Environment*

---

**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

---

**Nik Artsimenia** – Calgary Youth – AB

*The "Helping Hand" Project*

---

**Sebastian Audet** – Pacific Northwest – BC

*Seymour Lake is having a Floating Heart attack*

---

**Shayan Awan** – Wood Buffalo – AB

*TM&R Band: Age with Confidence*

---

**Jason Bae** – Bay Area – ON

*ADHD Treatment: Investigating the Effectiveness of Fine Motor Learning on Frontal Lobe Activity*

---

**Sam Bae** – Bay Area – ON

*Creating bioplastic that promotes the most effective filtration of atmospheric aerosol particles*

---

**Yasmine Ben Arous** – Réseau Technoscience – QC

*Calmos*

---

**Vaishu Bhathala Venkata** – Saskatchewan Chinook – SK

*MonstorMunch: The Solution To Childhood Obesity?*

---

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Tanish Bhatt** – Eastern Newfoundland – NL

*An Immunoinformatics-based Approach to Identifying a Theoretical Vaccine Against SARS-CoV-2 Variants*

---

**Alexandra Bishop** – Algoma Rotary – ON

*Exploring The Effectiveness of Multipurpose Toothpastes on the Oral Flora*

---

**Marshall Bobier** – Regina – SK

*R-U Insulated*

---

**Hadlea Bradbury** – Simcoe County – ON

*Gluten Tox*

---

**Maria Brons** – Prince Albert & Northeast Saskatchewan – SK

*Eggs vs. Time*

---

**Noah Bryan** – Canadian Black Scientists Network Youth – CA

*The Phage Takes Centre Stage for Water Quality Testing!*

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

**Patrick Casey** – Prince Edward Island – PE

*Printer vs. Cinder*

---

**Tesko Chaganti** – YSC Virtual – CA

*The Secrets of Healthy Aging: Discovery of Novel & Natural Senolytic PI3K Inhibitors*

---

**Caroline Chan** – Toronto – ON

*RecycleBot: An AI Enabled Waste Sorting Trash Can*

---

**Kaitlyn Chan** – Vancouver Island – BC

*Greening the Flames: Investigating the abilities of plants to reduce the impact of wildfires*

---

**Keanu Chan** – East Kootenay – BC

*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

---

**Armaan Chaudhari** – Western Manitoba – MB

*Antibiotics: Synthetic and Natural*

---

**Elizabeth Chen** – Edmonton – AB

*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

---

**Ashish Chettimada** – Waterloo-Wellington – ON

*ReAlign: A Novel Solution for the Early Detection and Management of Amblyopia*

---

**William Chiu, Rohit Koneru** – Toronto – ON

*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

---

**Jasmine Chow** – West Kootenay & Boundary – BC

*Can chip bags be used as an emergency blanket?*

---

**Joshua Chow** – Calgary Youth – AB

*How Your Weight Could Be Putting You at Risk: Unraveling the Link between BMI and Colorectal Adenomas*

---

**Maria Chzhen** – Bay Area – ON

*Comparison of Regression Algorithms in Multivariable Drought Modeling and Analysis*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Amy Clark** – Manitoba Schools Science Symposium – MB

*What is radiation?*

---

**Emma Coakley** – South-East New Brunswick – NB

*Inflatable Pouch Motors in Upper Limb Prosthetics*

---

**Ryan Cullen** – Eastern Newfoundland – NL

*Simulating Le Chatelier's Principle*

---

**Emmersyn da Mata, Hailee Marshall** – Frontier Schools – MB

*Walk your Butt to the Can*

---

**Julia Dargacz** – Niagara – ON

*The Progress Towards the Synthesis of Silatrane Lipid Head Groups*

---

**Sietse de Backer** – Prince Edward Island – PE

*Synced Up: Comparing Methods to Scale Synchronized Servers*

---

**Dexter Deheer** – Central Alberta Rotary – AB

*Can you Crypto Mine with a RaspberryPi?*

---

**Safia Deol** – Lambton County – ON

*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

---

**Justin Du** – Greater Vancouver – BC

*Intersect: Aggregated Note Summarization by Machine Learning*

---

**Mac Dykeman** – 4-H Canada – CA

*An Innovative Approach to Ammonia Control in Poultry Operations*

---

**Riley Edmunds** – Lambton County – ON

*One Drop at a Time: How effective are biodegradable filters?*

---

**Anthony Efthimiadis** – Bay Area – ON

*Diagnostic Screening of Basal Cell Carcinoma Cancer With AI*

---

**Aiyaan Faisal** – Winnipeg Schools – MB

*Exploration of Genetic Algorithm for Function Optimization*

---

**Tahlia Feldman** – Simcoe County – ON

*Battery Catastrophe*

---

**Chloe Fillion, Sophie Fillion** – Niagara – ON

*The Digital Air Rifle Ballistic Measuring Device*

---

**Ava Fischer** – Simcoe County – ON

*exSTREAM FUNgi*

---

**Claire Friesen** – Central Alberta Rotary – AB

*The Way It Flows: Laminar vs. Turbulent*

---

**Swas Ghosh** – Northern British Columbia – BC

*Green Pools of CO<sub>2</sub>: The Effects of CO<sub>2</sub> on Household Plants*

---

**Deepraj Singh Gill** – Fraser Valley – BC

*How a Commercial Jetliner Functions*

---

**Ila Giroux, Kavi Giroux** – Algoma Rotary – ON

*Drone Assisted Orchard Assessment*

---

**Jonathan Gong** – South Fraser – BC

*COVID-19 Chest X-ray Image Classification and Improved U-Net Segmentation*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Vinny Gu** – York – ON

*DermaScan: A Novel Approach to Skin Cancer Classification and Detection Using ML Models*

---

**Anqi Guan** – Manitoba Schools Science Symposium – MB

*Smart Farming: Self-Powered Hydrogel as a Fertilizer for Plant Growth*

---

**Albert Guo** – South Fraser – BC

*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*

---

**Justin Guo** – Greater Vancouver – BC

*What Method of Meat Thawing Results in Least Bacterial Contamination?*

---

**Veronica Guo** – Greater Vancouver – BC

*Biological Photovoltaics: Testing Algae for the Optimal Battery*

---

**Ryvan Hammoud** – South Fraser – BC

*Smart Naloxone Kit*

---

**Kathy Han** – Saskatoon – SK

*Hidden Dangers in Plain Sight: Investigating Pathogenic Bacteria in Household Plant Soil*

---

**Angelina Hang, Noah Oliver Pang** – Greater Vancouver – BC

*Turning Algae Into Fibers: The Solution to Textile Waste*

---

**Micah Hansen** – Peace Country – AB

*Homemade Fertilizers*

---

**Aaryan Harshith** – Sudbury – ON

*LightIR: An Intraoperative Probe to Enhance Tumour Resections*

---

**Nara Harvey** – Greater Vancouver – BC

*A Biological Solution to Phosphate and Nitrate Pollution*

---

**Ava Haynes** – Saskatchewan First Nations – SK

*Cyanobacteria*

---

**Nycea Hazelwood** – Lethbridge – AB

*Biomagnification – When a little becomes a lot*

---

**Renata Hollander** – Calgary Youth – AB

*The Mathematics of Language Through History: Does Zipf's Law Always Apply?*

---

**Ethan Hon** – York – ON

*Carbon Nanotubes and their Applications in Agriculture*

---

**Graeme Hopkins** – Saskatoon – SK

*Paleoecology and Geology of a Fossil-Bearing Quaternary Clay Formation New to Science*

---

**Evan Howells** – Yukon Stikine – YT

*Flight of the Bumble Bee: Comparing pollen foraging patterns of bumble bees and honey bees in Yukon*

---

**Blake Howes, Madelyn Howes** – Bluewater – ON

*The Science of Smiles*

---

**Reine Huang** – Greater Vancouver – BC

*Detecting and Preventing Human Falling with Lateral Stability*

---

**Sterling Huang, Ethan Xu** – Toronto – ON

*HydroElectrica: Water Purification + Dual Electricity Generation System*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Safwan Hussain** – Waterloo-Wellington – ON

*Building a Multiclass Brain Tumor Classification Model using a Convolutional Neural Network (CNN)*

---

**Kaleb Hussey** – South-East New Brunswick – NB

*The Effect of Weight Configuration and Load Knowledge on Trunk Motion in Adolescents*

---

**Richard Ilioukevitch** – Northwest Saskatchewan – SK

*The Rescue Rangers Autonomous Robotic Search and Rescue System*

---

**Jeffrey Ion** – Bay Area – ON

*Think Fast!*

---

**Nimish Jain** – Greater Vancouver – BC

*Highly Evolved Lip Learning mOdel (HELLO): A Novel Machine Learning Model for Accurate Lipreading.*

---

**Mateo Jarquin** – Réseau Technoscience – QC

*Need a hand with that?*

---

**Abigail Jennings** – Ottawa – ON

*Dress up: Gender Bias in Character Design*

---

**Tanya Jivani, Lalithya Raavi** – Wood Buffalo – AB

*From Raw to Cooked: Exploring Cooking Methods on Ascorbic Acid Retention in Tomatoes*

---

**Fayhaa Kafi** – South Fraser – BC

*The Orange Brick 2.0*

---

**Pathomphu Kanapornthada, Nutdanai Sunanthakhantharot** – Thailand – IN

*SAFEFALL: Fall Detection System using 3D Human Skeleton Model*

---

**Gurnoor Kaur** – Waterloo-Wellington – ON

*MalaScope: A Deep Learning Enabled Lensless Microscope for the Rapid Detection of Malaria*

---

**Ben Kawa** – Sudbury – ON

*Driver Wake Up!*

---

**Maryam Khanum** – Northern British Columbia – BC

*Feasibility Assessment of MFC to Treat Oil and Gas Produced Water and Generate Electricity*

---

**Sophie Kong** – Prince Edward Island – PE

*Soil Microbial Fuel Cell*

---

**Heather Kornylo** – Northern Vancouver Island – BC

*Auto-Pend Lab*

---

**Emily Krause, E'lise Nguyen** – Ottawa – ON

*M.E.P.*

---

**Liz Krelove, Karys Littlejohns** – Simcoe County – ON

*Investigating the effects of stimulants and depressants in aquatic pollutants on *Daphnia magna**

---

**William Larder** – Annapolis Valley – NS

*Culvert Remediation for Fish Passage in Barkhouse Brook*

---

**Anna Lawand** – Cape Breton – NS

*Natural Antibiotics Comparison Experiment*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Jacob LeBlanc** – Bay Area – ON

*Sustainability Metrics for Consumer Products Using Open-Source Data, Python and QR Code Technology*

---

**Jordan LeBlanc** – Bay Area – ON

*Transferring Pollen Using a Mechanical Bee*

---

**Maya LeBlanc** – Bay Area – ON

*Nitrous Oxide Reduction in an Industrial Wet Scrubber Utilizing NosZ Reductase and P. denitrificans*

---

**Jonathan Leung** – Greater Vancouver – BC

*A Survey of Spider Diversity at the University of British Columbia Farm*

---

**Daiying Li** – Toronto – ON

*GMCVD: Detecting key gut microbiota to reduce cardiovascular disease risk for precise prevention*

---

**Jonathan Li** – Frontenac, Lennox & Addington – ON

*Depressed or Not? Using Large Language Models to Predict Depression from Social Media Posts*

---

**Rebecca Li** – Réseau Technoscience – QC

*Cyrene and Neurodegeneration*

---

**William Li** – West Kootenay & Boundary – BC

*Centrifugal Space Fitness Center*

---

**Ziang Li** – Bay Area – ON

*I.C.: Predict Food Recipe from Image using CNN/Transformer & Knowledge Distillation for Portability*

---

**Marissa Magsino** – Manitoba Schools Science Symposium – MB

*Manipulating Tenebrio molitor with chemical compounds to maximize the biodegradation of polystyrene*

---

**Shayan Mahmood** – Thames Valley – ON

*Morphological Characterization of Imaged iPSC-Derived Endothelial Cells Using Machine Learning*

---

**Aahaan Maini** – Bay Area – ON

*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

---

**Andrei Marti** – Vancouver Island – BC

*Sweet Scores*

---

**Renzo Masiclat** – Southeast Alberta – AB

*Cranberries: A Potential Treatment and Prophylaxis Against Urinary Tract Infections*

---

**Ariel Mason** – Calgary Youth – AB

*Using Machine Learning to Detect Breast Cancer*

---

**Mateo Mathenge** – Halifax – NS

*Green Energy: The answer is blowing in the wind*

---

**Khafri Mau** – Greater Vancouver – BC

*The First Step to Growing Plants on Mars*

---

**Rylie McGrath** – South-East New Brunswick – NB

*The Moss Pit: Comparing the performance of three moss species local to Saint John on two substrates*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

<b>Emily McKenna</b> – Winnipeg Schools – MB <i>Compaction Action: Measuring the effect of additives on soil compaction</i>
<b>Sia Mehta</b> – Simcoe County – ON <i>Glaze the Roof</i>
<b>Jad Menkara</b> – Windsor – ON <i>Novel Thermoelectric Generator for Automobile Exhaust Waste Heat Recovery</i>
<b>Anne Mister, Annabelle Tasset-Scherer</b> – Ottawa – ON <i>Gérons le son!</i>
<b>Alyssa Morena</b> – Ottawa – ON <i>Hydrogen Fuel of the Future – Dry Hydrogen Storage</i>
<b>Katharine Morley</b> – Vancouver Island – BC <i>Plastered Plants Defeat Drought: Exploring the effects of ethanol on drought resistance in plants</i>
<b>Thomas Mullaly, Arthur Queiroz</b> – Sudbury – ON <i>Can worms be a part of the Styrofoam pollution solution?</i>
<b>Nila Munro, Donell O'Connor</b> – Strait – NS <i>Waste Not, Want Not; Enhancing Nuclear Energy Output</i>
<b>Sarah Murimboh</b> – Annapolis Valley – NS <i>The Effects of Humidity and Temperature on Deformities in Tenebrio molitor</i>
<b>Thomas Murimboh</b> – Annapolis Valley – NS <i>The Best Cell Provider! An Evaluation of Probiotic Products</i>
<b>Anush Mutyala</b> – Peel – ON <i>Energyspike: Pioneering Wireless Mind-Control Implants using Energy-Efficient Neuromorphic Computing</i>
<b>Daniel Nashed</b> – Manitoba Schools Science Symposium – MB <i>Which one soundproofs best?</i>
<b>Arushi Nath</b> – Toronto – ON <i>Developing algorithms to determine asteroid's physical properties and success of deflection missions</i>
<b>Harry Nickerson</b> – Halifax – NS <i>Do You Really See What Eye See?</i>
<b>Adelyn Noh</b> – Edmonton – AB <i>Latherin' Up Your Mind: Priming Humans and AI</i>
<b>Annika Paliwal</b> – Bison – MB <i>A Long-Term Study Using Serious Games to Diagnose and Treat Dementia</i>
<b>Ria Patel</b> – Ottawa – ON <i>The Spark of Life: Exploration of neuromuscular junctions, insulin secretion, and cardiac regulation</i>
<b>Shail Patel</b> – Frontenac, Lennox & Addington – ON <i>Dextera: An Affordable, Functional, Myoelectric Prosthetic Hand</i>
<b>Alpita Patro</b> – Eastern Newfoundland – NL <i>Investigating the Antibacterial Activity of Natural Remedies Against Non-Pathogenic E. coli</i>



# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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**Spencer Pearce** – Western Manitoba – MB  
*Noise Pollution or Productivity? Investigating the Effects of Sound on Concentration*

---

**Jasmin Pelletier** – Réseau Technoscience – QC  
*As-tu le profil d'un gagnant?*

---

**Justin Peng** – Greater Vancouver – BC  
*Atmos: A Neural Edge-Cloud Visual to Auditory Spatial Augmentation Device for the Visually Impaired*

---

**Zenia Pereira, Nandika Senthilkumar** – Edmonton – AB  
*Alex, the AI that Doesn't Exist*

---

**Maggie Polischuk** – Sudbury – ON  
*'Steer Clear' The Break-Away Steering Wheel!*

---

**Kadhir Ponnambalam** – Bay Area – ON  
*Electrotaxis of the Tardigrade Species *Hypsibius exemplaris* in a Microfluidic Environment*

---

**Yurui Qin** – Saskatoon – SK  
*A Novel Approach to Using Artificial Intelligence to Aid the Hearing Impaired*

---

**Thông Quách** – Saskatoon – SK  
*FlaxFloc - A Saskatchewan Plant-Based Material in Turbidity Removal for Sustainable Water Treatment*

---

**Izabela Quest** – Frontenac, Lennox & Addington – ON  
*Stopping Cancer in its Tracks: How does fructose enable cancer cell metastasis?*

---

**Nishka Rai** – Wood Buffalo – AB  
*F.R.O.S.T. – Frostbite Risk Observation & Safety Technology*

---

**Cyndi Rayson** – Lambton County – ON  
*Bioremediation to the Rescue: An Environmental Solution to Pollution*

---

**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN  
*Tlaolli Xiuhtic*

---

**Hooman Reza Nezhad** – Waterloo-Wellington – ON  
*From Dust to Habitation – Molten Salt Electrolysis for the In-situ Reduction of Martian Regolith*

---

**William Rodgers, Rylan Wainman** – Beaufort-Delta – NT  
*Steroid Use*

---

**Hanna Ryan** – Yukon Stikine – YT  
*What's the best way to dry your hands?*

---

**Annika Saini** – Calgary Youth – AB  
*A DIY Air Purifier To Clean Particulate Matter and Chemicals from Household Air*

---

**Mohamed Saleh** – Windsor – ON  
*Pumpkin Plastic: An Innovative Bioplastic to Replace Petroleum-based Plastic*

---

**Misimi Sanni** – Bay Area – ON  
*Emerging Prosthetics: The Novel Development of a Cost-Effective Electronic Prosthetic Arm*

---

**Madhav Saravanan** – Peel – ON  
*Microplastics, Macro Problem*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Layla Sawan** – Thames Valley – ON  
*GreenGenie Composting System*

---

**Rishi Shah** – Thames Valley – ON  
*From Pixels to Precision*

---

**Kevin Shao** – Thames Valley – ON  
*Characterizing the Intrinsic Profile and Environmental Variations of the 5780Å DIB*

---

**Aryan Sharma** – Calgary Youth – AB  
*A Novel Solution to Plastic Pollution*

---

**Vedant Sheel** – Bluewater – ON  
*A Voice For The Voiceless*

---

**Adara Shilling** – Greater Vancouver – BC  
*Plastic Roots*

---

**Rodin Shokravi, Kevin Yuan** – Greater Vancouver – BC  
*A Novel System: Replicating Materials' Arithmetic Mean Height Using LRAs & Piezo Elements*

---

**Roocha Shukla** – Waterloo-Wellington – ON  
*The Power that Brings Flowers*

---

**Prabhnoor Sidhu** – Central Interior BC – BC  
*Mitigating the Effects of Debris Flows: Part Two*

---

**Sehar Sidhu** – Windsor – ON  
*ChatGPT is everywhere: Is this AI chatbot a friend or foe?*

---

**Prabhdeep Singh** – Thames Valley – ON  
*Asion: An ML-powered Sky Navigation and Constellation Recognition System*

---

**Bram St. Peters** – Halifax – NS  
*Could moon colonists add human biosolids or sand to lunar soil to increase food production on the moon?*

---

**Ella Strachan** – Winnipeg Schools – MB  
*Mapping Microplastics: Computer Modelling to Predict & Address Microplastic Accumulation in Lakes*

---

**Camela Temacini** – Niagara – ON  
*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

**Jonas Tkacz** – Conseil scolaire acadien provincial – NS  
*Un vaccin informatique: l'utilisation de l'intelligence artificielle pour combattre les virus*

---

**Alexia Tomasello** – Districts francophones du N.-B. – NB  
*La conservation des chauves-souris, un défi de taille !*

---

**Ayana Torres** – Ottawa – ON  
*Amélioration de toiture: déflecteur de vent*

---

**Beth Tubman** – Strait – NS  
*From Flower to Flavour – How pollen type affects honey*

---

**Danill Tyurin** – Calgary Youth – AB  
*The Feasibility and Prototyping of a Mechanical Counterpressure EVA Space Suit*

---

**Afaq Virk** – United Counties – ON  
*eECHOlocation: An Innovation to Mitigate Visual Impairment*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Ann Wang** – Greater Vancouver – BC  
*Battling Bacterial Biofilms*

---

**Sara Waqas** – Calgary Youth – AB  
*Can Bioengineering Alter Genetic Mutations and Create Organs Using Stem Cells?*

---

**Evan Warburton** – Vancouver Island – BC  
*The Dual Dipole Radio Telescope*

---

**Jack Washburn** – Frontenac, Lennox & Addington – ON  
*Sham(e)poo: Clean Hair without the Dirty Secret Ingredients of Commercial Shampoos*

---

**Mark Wendland** – Renfrew County – ON  
*Tank Battles in 2D & 3D*

---

**Errita Xu** – Toronto – ON  
*Road Salt: Its Implications and Exploring Agro-Based Alternatives*

---

**Brian Yin** – Bay Area – ON  
*Student Engagement Rewards System*

---

**Justin Yu** – Fraser Valley – BC  
*Zap the Lead Problem! Cost-effective and Immediate Electrochemical Pipe Scale Accelerator*

---

**Sophia Zhang** – Eastern Newfoundland – NL  
*Triboelectric Nanogenerator for Wind Energy Harvesting*

---

**Aaron Zhao** – Greater Vancouver – BC  
*ExoTremor: A Low-Cost, 3D-Printed Exoskeleton that Suppresses Hand Tremors in Movement Disorder Patients*

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#### University of Manitoba Entrance Scholarship

##### Senior

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

---

**Alyssa Anderson** – South-East New Brunswick – NB  
*Phytotron Ventilation: Seedling Survival in a Changing Environment*

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON  
*Nail Braille: A Novel Approach Towards Braille Education*

---

**Elizabeth Chen** – Edmonton – AB  
*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

---

**Ryan Cullen** – Eastern Newfoundland – NL  
*Simulating Le Chatelier's Principle*

---

**Safia Deol** – Lambton County – ON  
*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

---

**Ava Fischer** – Simcoe County – ON  
*exSTREAM FUNgi*

---

**Heather Kornlyo** – Northern Vancouver Island – BC  
*Auto-Pend Lab*

---

**Thomas Murimboh** – Annapolis Valley – NS  
*The Best Cell Provider! An Evaluation of Probiotic Products*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Jasmin Pelletier** – Réseau Technoscience – QC  
*As-tu le profil d'un gagnant?*

---

**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN  
*Tlaolli Xiuhtic*

---

**Camela Temacini** – Niagara – ON  
*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

#### University of New Brunswick Canada-Wide Science Fair Scholarship

##### Senior

Sponsor: University of New Brunswick  
Gold Medallist - \$5000 Entrance Scholarship

---

**Alyssa Anderson** – South-East New Brunswick – NB  
*Phytotron Ventilation: Seedling Survival in a Changing Environment*

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**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON  
*Nail Braille: A Novel Approach Towards Braille Education*

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*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

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**Jasmin Pelletier** – Réseau Technoscience – QC  
*As-tu le profil d'un gagnant?*

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**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN  
*Tlaolli Xiuhtic*

---

**Camela Temacini** – Niagara – ON  
*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

#### University of New Brunswick Canada-Wide Science Fair Scholarship

##### Senior

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

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**Mariane Angers** – Réseau Technoscience – QC  
*Vert Houlo, Wh*

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**Nik Artsimenia** – Calgary Youth – AB  
*The "Helping Hand" Project*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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**Jason Bae** – Bay Area – ON

*ADHD Treatment: Investigating the Effectiveness of Fine Motor Learning on Frontal Lobe Activity*

---

**Sam Bae** – Bay Area – ON

*Creating bioplastic that promotes the most effective filtration of atmospheric aerosol particles*

---

**Tanish Bhatt** – Eastern Newfoundland – NL

*An Immunoinformatics-based Approach to Identifying a Theoretical Vaccine Against SARS-CoV-2 Variants*

---

**Keanu Chan** – East Kootenay – BC

*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

---

**William Chiu, Rohit Koneru** – Toronto – ON

*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

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**Jonathan Gong** – South Fraser – BC

*COVID-19 Chest X-ray Image Classification and Improved U-Net Segmentation*

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**Vinny Gu** – York – ON

*DermaScan: A Novel Approach to Skin Cancer Classification and Detection Using ML Models*

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**Albert Guo** – South Fraser – BC

*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*

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**Aaryan Harshith** – Sudbury – ON

*LightIR: An Intraoperative Probe to Enhance Tumour Resections*

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**Graeme Hopkins** – Saskatoon – SK

*Paleoecology and Geology of a Fossil-Bearing Quaternary Clay Formation New to Science*

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**Daiying Li** – Toronto – ON

*GMCVD: Detecting key gut microbiota to reduce cardiovascular disease risk for precise prevention*

---

**Rebecca Li** – Réseau Technoscience – QC

*Cyrene and Neurodegeneration*

---

**Marissa Magsino** – Manitoba Schools Science Symposium – MB

*Manipulating *Tenebrio molitor* with chemical compounds to maximize the biodegradation of polystyrene*

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**Aahaan Maini** – Bay Area – ON

*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

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**Hooman Reza Nezhad** – Waterloo-Wellington – ON

*From Dust to Habitation – Molten Salt Electrolysis for the In-situ Reduction of Martian Regolith*

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**Kevin Shao** – Thames Valley – ON

*Characterizing the Intrinsic Profile and Environmental Variations of the 5780Å DIB*

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**Prabhnoor Sidhu** – Central Interior BC – BC

*Mitigating the Effects of Debris Flows: Part Two*

---

**Evan Warburton** – Vancouver Island – BC

*The Dual Dipole Radio Telescope*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

#### University of Ottawa Entrance Scholarship

##### Senior

Sponsor: University of Ottawa  
Senior Gold Medallist - \$4,000 Entrance Scholarship

---

**Alyssa Anderson** – South-East New Brunswick – NB  
*Phytotron Ventilation: Seedling Survival in a Changing Environment*

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**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON  
*Nail Braille: A Novel Approach Towards Braille Education*

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*Simulating Le Chatelier's Principle*

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**Safia Deol** – Lambton County – ON  
*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

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*exSTREAM FUNgi*

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*Auto-Pend Lab*

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*The Best Cell Provider! An Evaluation of Probiotic Products*

---

**Jasmin Pelletier** – Réseau Technoscience – QC  
*As-tu le profil d'un gagnant?*

---

**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN  
*Tlaolli Xiuhcic*

---

**Camela Temacini** – Niagara – ON  
*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

#### University of Ottawa Entrance Scholarship

##### Senior

Sponsor: University of Ottawa  
Senior Silver Medallist - \$2000 Entrance Scholarship

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**Mariane Angers** – Réseau Technoscience – QC  
*Vert Houlo, Wh*

---

**Nik Artsimonia** – Calgary Youth – AB  
*The "Helping Hand" Project*

---

**Jason Bae** – Bay Area – ON  
*ADHD Treatment: Investigating the Effectiveness of Fine Motor Learning on Frontal Lobe Activity*

---

**Sam Bae** – Bay Area – ON  
*Creating bioplastic that promotes the most effective filtration of atmospheric aerosol particles*

---

**Tanish Bhatt** – Eastern Newfoundland – NL  
*An Immunoinformatics-based Approach to Identifying a Theoretical Vaccine Against SARS-CoV-2 Variants*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Keanu Chan** – East Kootenay – BC

*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

---

**William Chiu, Rohit Koneru** – Toronto – ON

*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

---

**Jonathan Gong** – South Fraser – BC

*COVID-19 Chest X-ray Image Classification and Improved U-Net Segmentation*

---

**Vinny Gu** – York – ON

*DermaScan: A Novel Approach to Skin Cancer Classification and Detection Using ML Models*

---

**Albert Guo** – South Fraser – BC

*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*

---

**Aaryan Harshith** – Sudbury – ON

*LightIR: An Intraoperative Probe to Enhance Tumour Resections*

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**Graeme Hopkins** – Saskatoon – SK

*Paleoecology and Geology of a Fossil-Bearing Quaternary Clay Formation New to Science*

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**Daiying Li** – Toronto – ON

*GMCVD: Detecting key gut microbiota to reduce cardiovascular disease risk for precise prevention*

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**Rebecca Li** – Réseau Technoscience – QC

*Cyrene and Neurodegeneration*

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**Marissa Magsino** – Manitoba Schools Science Symposium – MB

*Manipulating *Tenebrio molitor* with chemical compounds to maximize the biodegradation of polystyrene*

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**Aahaan Maini** – Bay Area – ON

*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

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**Hooman Reza Nezhad** – Waterloo-Wellington – ON

*From Dust to Habitation – Molten Salt Electrolysis for the In-situ Reduction of Martian Regolith*

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**Kevin Shao** – Thames Valley – ON

*Characterizing the Intrinsic Profile and Environmental Variations of the 5780Å DIB*

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**Prabhnoor Sidhu** – Central Interior BC – BC

*Mitigating the Effects of Debris Flows: Part Two*

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**Evan Warburton** – Vancouver Island – BC

*The Dual Dipole Radio Telescope*

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### University of Ottawa Entrance Scholarship

#### Senior

Sponsor: University of Ottawa

Senior Bronze Medallist - \$1000 Entrance Scholarship

---

**Hannah Allen** – South Shore – NS

*Food for Thought*

---

**Hadlea Bradbury** – Simcoe County – ON

*Gluten Tox*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Joshua Chow** – Calgary Youth – AB

*How Your Weight Could Be Putting You at Risk: Unraveling the Link between BMI and Colorectal Adenomas*

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**Maria Chzhen** – Bay Area – ON

*Comparison of Regression Algorithms in Multivariable Drought Modeling and Analysis*

---

**Emma Coakley** – South-East New Brunswick – NB

*Inflatable Pouch Motors in Upper Limb Prosthetics*

---

**Julia Dargacz** – Niagara – ON

*The Progress Towards the Synthesis of Silatrane Lipid Head Groups*

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**Sietse de Backer** – Prince Edward Island – PE

*Synced Up: Comparing Methods to Scale Synchronized Servers*

---

**Justin Du** – Greater Vancouver – BC

*Intersect: Aggregated Note Summarization by Machine Learning*

---

**Mac Dykeman** – 4-H Canada – CA

*An Innovative Approach to Ammonia Control in Poultry Operations*

---

**Ava Haynes** – Saskatchewan First Nations – SK

*Cyanobacteria*

---

**Evan Howells** – Yukon Stikine – YT

*Flight of the Bumble Bee: Comparing pollen foraging patterns of bumble bees and honey bees in Yukon*

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**Kaleb Hussey** – South-East New Brunswick – NB

*The Effect of Weight Configuration and Load Knowledge on Trunk Motion in Adolescents*

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**Pathomphu Kanapornthada, Nutdanai Sunanthakhantharot** – Thailand – IN

*SAFEFALL: Fall Detection System using 3D Human Skeleton Model*

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**Liz Krelove, Karys Littlejohns** – Simcoe County – ON

*Investigating the effects of stimulants and depressants in aquatic pollutants on *Daphnia magna**

---

**Jonathan Li** – Frontenac, Lennox & Addington – ON

*Depressed or Not? Using Large Language Models to Predict Depression from Social Media Posts*

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**Ziang Li** – Bay Area – ON

*I.C.: Predict Food Recipe from Image using CNN/Transformer & Knowledge Distillation for Portability*

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**Shayan Mahmood** – Thames Valley – ON

*Morphological Characterization of Imaged iPSC-Derived Endothelial Cells Using Machine Learning*

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**Renzo Masiclat** – Southeast Alberta – AB

*Cranberries: A Potential Treatment and Prophylaxis Against Urinary Tract Infections*

---

**Rylie McGrath** – South-East New Brunswick – NB

*The Moss Pit: Comparing the performance of three moss species local to Saint John on two substrates*

---

**Nila Munro, Donell O'Connor** – Strait – NS

*Waste Not, Want Not; Enhancing Nuclear Energy Output*



# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Anush Mutyala** – Peel – ON

*Energyspike: Pioneering Wireless Mind-Control Implants using Energy-Efficient Neuromorphic Computing*

---

**Annika Paliwal** – Bison – MB

*A Long-Term Study Using Serious Games to Diagnose and Treat Dementia*

---

**Ria Patel** – Ottawa – ON

*The Spark of Life: Exploration of neuromuscular junctions, insulin secretion, and cardiac regulation*

---

**William Rodgers, Rylan Wainman** – Beaufort-Delta – NT

*Steroid Use*

---

**Misimi Sanni** – Bay Area – ON

*Emerging Prosthetics: The Novel Development of a Cost-Effective Electronic Prosthetic Arm*

---

**Adara Shilling** – Greater Vancouver – BC

*Plastic Roots*

---

**Rodin Shokravi, Kevin Yuan** – Greater Vancouver – BC

*A Novel System: Replicating Materials' Arithmetic Mean Height Using LRAs & Piezo Elements*

---

**Jonas Tkacz** – Conseil scolaire acadien provincial – NS

*Un vaccin informatique: l'utilisation de l'intelligence artificielle pour combattre les virus*

---

**Afaq Virk** – United Counties – ON

*eECHOlocation: An Innovation to Mitigate Visual Impairment*

---

**Errita Xu** – Toronto – ON

*Road Salt: Its Implications and Exploring Agro-Based Alternatives*

---

**Aaron Zhao** – Greater Vancouver – BC

*ExoTremor: A Low-Cost, 3D-Printed Exoskeleton that Suppresses Hand Tremors in Movement Disorder Patients*

---

### Western University Scholarship

Sponsor: Western University

Gold Medallist - \$4000 Entrance Scholarship

---

**Alyssa Anderson** – South-East New Brunswick – NB

*Phytotron Ventilation: Seedling Survival in a Changing Environment*

---

**Noah Bryan** – Canadian Black Scientists Network Youth – CA

*The Phage Takes Centre Stage for Water Quality Testing!*

---

**Moulik Budhiraja, Katelyn Wu** – Waterloo-Wellington – ON

*Nail Braille: A Novel Approach Towards Braille Education*

---

**Tesko Chaganti** – YSC Virtual – CA

*The Secrets of Healthy Aging: Discovery of Novel & Natural Senolytic PI3K Inhibitors*

---

**Caroline Chan** – Toronto – ON

*RecycleBot: An AI Enabled Waste Sorting Trash Can*

---

**Elizabeth Chen** – Edmonton – AB

*Optimization of CAR-T Cell Therapy using RNA-Sequencing Analysis for Biomarker Identification*

---

**Ashish Chettimada** – Waterloo-Wellington – ON

*ReAlign: A Novel Solution for the Early Detection and Management of Amblyopia*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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<b>Ryan Cullen</b> – Eastern Newfoundland – NL <i>Simulating Le Chatelier's Principle</i>
<b>Safia Deol</b> – Lambton County – ON <i>The IncrediGels: Multifaceted Biopolymers for Dental Procedures</i>
<b>Ava Fischer</b> – Simcoe County – ON <i>exSTREAM FUNgi</i>
<b>Justin Guo</b> – Greater Vancouver – BC <i>What Method of Meat Thawing Results in Least Bacterial Contamination?</i>
<b>Veronica Guo</b> – Greater Vancouver – BC <i>Biological Photovoltaics: Testing Algae for the Optimal Battery</i>
<b>Renata Hollander</b> – Calgary Youth – AB <i>The Mathematics of Language Through History: Does Zipf's Law Always Apply?</i>
<b>Richard Ilioukevitch</b> – Northwest Saskatchewan – SK <i>The Rescue Rangers Autonomous Robotic Search and Rescue System</i>
<b>Fayhaa Kafi</b> – South Fraser – BC <i>The Orange Brick 2.0</i>
<b>Gurnoor Kaur</b> – Waterloo-Wellington – ON <i>MalaScope: A Deep Learning Enabled Lensless Microscope for the Rapid Detection of Malaria</i>
<b>Heather Kornylo</b> – Northern Vancouver Island – BC <i>Auto-Pend Lab</i>
<b>Jordan LeBlanc</b> – Bay Area – ON <i>Transferring Pollen Using a Mechanical Bee</i>
<b>Jonathan Leung</b> – Greater Vancouver – BC <i>A Survey of Spider Diversity at the University of British Columbia Farm</i>
<b>Andrei Marti</b> – Vancouver Island – BC <i>Sweet Scores</i>
<b>Mateo Mathenge</b> – Halifax – NS <i>Green Energy: The answer is blowing in the wind</i>
<b>Thomas Murimboh</b> – Annapolis Valley – NS <i>The Best Cell Provider! An Evaluation of Probiotic Products</i>
<b>Arushi Nath</b> – Toronto – ON <i>Developing algorithms to determine asteroid's physical properties and success of deflection missions</i>
<b>Harry Nickerson</b> – Halifax – NS <i>Do You Really See What Eye See?</i>
<b>Adelyn Noh</b> – Edmonton – AB <i>Latherin' Up Your Mind: Priming Humans and AI</i>
<b>Jasmin Pelletier</b> – Réseau Technoscience – QC <i>As-tu le profil d'un gagnant?</i>
<b>Yurui Qin</b> – Saskatoon – SK <i>A Novel Approach to Using Artificial Intelligence to Aid the Hearing Impaired</i>

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Sarah Reyes Zamora, Diego Rodriguez Collantes** – Mexico – IN  
*Tlaolli Xiuhcic*

---

**Annika Saini** – Calgary Youth – AB  
*A DIY Air Purifier To Clean Particulate Matter and Chemicals from Household Air*

---

**Bram St. Peters** – Halifax – NS  
*Could moon colonists add human biosolids or sand to lunar soil to increase food production on the moon?*

---

**Camela Temacini** – Niagara – ON  
*Recreating a Tumour Microenvironment: Solving a Major Problem in Cancer Cell Culture*

---

#### Western University Scholarship

Sponsor: Western University  
Silver Medallist - \$2000 Entrance Scholarship

---

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

---

**Mariane Angers** – Réseau Technoscience – QC  
*Vert Houlo, Wh*

---

**Nik Artsimonia** – Calgary Youth – AB  
*The "Helping Hand" Project*

---

**Shayan Awan** – Wood Buffalo – AB  
*TM&R Band: Age with Confidence*

---

**Jason Bae** – Bay Area – ON  
*ADHD Treatment: Investigating the Effectiveness of Fine Motor Learning on Frontal Lobe Activity*

---

**Sam Bae** – Bay Area – ON  
*Creating bioplastic that promotes the most effective filtration of atmospheric aerosol particles*

---

**Yasmine Ben Arous** – Réseau Technoscience – QC  
*Calmos*

---

**Vaishu Bhathala Venkata** – Saskatchewan Chinook – SK  
*MonstorMunch: The Solution To Childhood Obesity?*

---

**Tanish Bhatt** – Eastern Newfoundland – NL  
*An Immunoinformatics-based Approach to Identifying a Theoretical Vaccine Against SARS-CoV-2 Variants*

---

**Patrick Casey** – Prince Edward Island – PE  
*Printer vs. Cinder*

---

**Keanu Chan** – East Kootenay – BC  
*PRrecision Exospinal Constructive Innovative Stereotactic Evolution (PRECISE)*

---

**William Chiu, Rohit Koneru** – Toronto – ON  
*Quantum Annealing for Real-Time Reconfiguration of Electrical Grids to Minimize Transmission Loss*

---

**Amy Clark** – Manitoba Schools Science Symposium – MB  
*What is radiation?*

---

**Riley Edmunds** – Lambton County – ON  
*One Drop at a Time: How effective are biodegradable filters?*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



- 
- Anthony Efthimiadis** – Bay Area – ON  
*Diagnostic Screening of Basal Cell Carcinoma Cancer With AI*
- 
- Tahlia Feldman** – Simcoe County – ON  
*Battery Catastrophe*
- 
- Chloe Filion, Sophie Filion** – Niagara – ON  
*The Digital Air Rifle Ballistic Measuring Device*
- 
- Ila Giroux, Kavi Giroux** – Algoma Rotary – ON  
*Drone Assisted Orchard Assessment*
- 
- Jonathan Gong** – South Fraser – BC  
*COVID-19 Chest X-ray Image Classification and Improved U-Net Segmentation*
- 
- Vinny Gu** – York – ON  
*DermaScan: A Novel Approach to Skin Cancer Classification and Detection Using ML Models*
- 
- Anqi Guan** – Manitoba Schools Science Symposium – MB  
*Smart Farming: Self-Powered Hydrogel as a Fertilizer for Plant Growth*
- 
- Albert Guo** – South Fraser – BC  
*Alzheimer's in 16x16 Words: Transformers for Biomarker-Based Diagnosis*
- 
- Ryhan Hammoud** – South Fraser – BC  
*Smart Naloxone Kit*
- 
- Kathy Han** – Saskatoon – SK  
*Hidden Dangers in Plain Sight: Investigating Pathogenic Bacteria in Household Plant Soil*
- 
- Aaryan Harshith** – Sudbury – ON  
*LightIR: An Intraoperative Probe to Enhance Tumour Resections*
- 
- Nara Harvey** – Greater Vancouver – BC  
*A Biological Solution to Phosphate and Nitrate Pollution*
- 
- Ethan Hon** – York – ON  
*Carbon Nanotubes and their Applications in Agriculture*
- 
- Graeme Hopkins** – Saskatoon – SK  
*Paleoecology and Geology of a Fossil-Bearing Quaternary Clay Formation New to Science*
- 
- Blake Howes, Madelyn Howes** – Bluewater – ON  
*The Science of Smiles*
- 
- Mateo Jarquin** – Réseau Technoscience – QC  
*Need a hand with that?*
- 
- Maryam Khanum** – Northern British Columbia – BC  
*Feasibility Assessment of MFC to Treat Oil and Gas Produced Water and Generate Electricity*
- 
- Jacob LeBlanc** – Bay Area – ON  
*Sustainability Metrics for Consumer Products Using Open-Source Data, Python and QR Code Technology*
- 
- Daiying Li** – Toronto – ON  
*GMCVD: Detecting key gut microbiota to reduce cardiovascular disease risk for precise prevention*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Rebecca Li** – Réseau Technoscience – QC  
*Cyrene and Neurodegeneration*

---

**Marissa Magsino** – Manitoba Schools Science Symposium – MB  
*Manipulating *Tenebrio molitor* with chemical compounds to maximize the biodegradation of polystyrene*

---

**Aahaan Maini** – Bay Area – ON  
*Circulate: Designing an Algorithmic Blood Distribution System to Tackle the Indian Blood Shortage*

---

**Anne Mister, Annabelle Tasset-Scherer** – Ottawa – ON  
*Gérons le son!*

---

**Alyssa Morena** – Ottawa – ON  
*Hydrogen Fuel of the Future – Dry Hydrogen Storage*

---

**Thomas Mullaly, Arthur Queiroz** – Sudbury – ON  
*Can worms be a part of the Styrofoam pollution solution?*

---

**Sarah Murimboh** – Annapolis Valley – NS  
*The Effects of Humidity and Temperature on Deformities in *Tenebrio molitor**

---

**Spencer Pearce** – Western Manitoba – MB  
*Noise Pollution or Productivity? Investigating the Effects of Sound on Concentration*

---

**Justin Peng** – Greater Vancouver – BC  
*Atmos: A Neural Edge-Cloud Visual to Auditory Spatial Augmentation Device for the Visually Impaired*

---

**Kadhir Ponnambalam** – Bay Area – ON  
*Electrotaxis of the Tardigrade Species *Hypsibius exemplaris* in a Microfluidic Environment*

---

**Thông Quách** – Saskatoon – SK  
*FlaxFloc - A Saskatchewan Plant-Based Material in Turbidity Removal for Sustainable Water Treatment*

---

**Nishka Rai** – Wood Buffalo – AB  
*F.R.O.S.T. – Frostbite Risk Observation & Safety Technology*

---

**Cyndi Rayson** – Lambton County – ON  
*Bioremediation to the Rescue: An Environmental Solution to Pollution*

---

**Hooman Reza Nezhad** – Waterloo-Wellington – ON  
*From Dust to Habitation – Molten Salt Electrolysis for the In-situ Reduction of Martian Regolith*

---

**Madhav Saravanan** – Peel – ON  
*Microplastics, Macro Problem*

---

**Layla Sawan** – Thames Valley – ON  
*GreenGenie Composting System*

---

**Kevin Shao** – Thames Valley – ON  
*Characterizing the Intrinsic Profile and Environmental Variations of the 5780Å DIB*

---

**Aryan Sharma** – Calgary Youth – AB  
*A Novel Solution to Plastic Pollution*

---

**Vedant Sheel** – Bluewater – ON  
*A Voice For The Voiceless*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Prabhnoor Sidhu** – Central Interior BC – BC  
*Mitigating the Effects of Debris Flows: Part Two*

---

**Sehar Sidhu** – Windsor – ON  
*ChatGPT is everywhere: Is this AI chatbot a friend or foe?*

---

**Danill Tyurin** – Calgary Youth – AB  
*The Feasibility and Prototyping of a Mechanical Counterpressure EVA Space Suit*

---

**Ann Wang** – Greater Vancouver – BC  
*Battling Bacterial Biofilms*

---

**Sara Waqas** – Calgary Youth – AB  
*Can Bioengineering Alter Genetic Mutations and Create Organs Using Stem Cells?*

---

**Evan Warburton** – Vancouver Island – BC  
*The Dual Dipole Radio Telescope*

---

**Justin Yu** – Fraser Valley – BC  
*Zap the Lead Problem! Cost-effective and Immediate Electrochemical Pipe Scale Accelerator*

---

**Sophia Zhang** – Eastern Newfoundland – NL  
*Triboelectric Nanogenerator for Wind Energy Harvesting*

---

#### Western University Scholarship

Sponsor: Western University  
Bronze Medallist - \$1000 Entrance Scholarship

---

**Alexander Abesteh** – Ottawa – ON  
*Timelike and Null Geodesics around a Reissner-Nordström Black Hole*

---

**Luca Agnello** – Ottawa – ON  
*Énergie volcanique*

---

**Munir Al-Taher** – Canadian Black Scientists Network Youth – CA  
*Changing the way we refill electric cars*

---

**Maggie Alexander** – Renfrew County – ON  
*Who's Cell Phone is the Grossest?*

---

**Imran Allarakhia** – Bay Area – ON  
*My SEER (Social Emotional Engaging Robot): Social Robots to Detect and Manage Student Anxiety*

---

**Hannah Allen** – South Shore – NS  
*Food for Thought*

---

**Wafaa Amin, Asia Urquhart** – Halifax – NS  
*A Novel Study of Physiological and Social Relation with Low-Valence Emotions: Pediatric PCEST Care*

---

**Sebastian Audet** – Pacific Northwest – BC  
*Seymour Lake is having a Floating Heart attack*

---

**Alexandra Bishop** – Algoma Rotary – ON  
*Exploring The Effectiveness of Multipurpose Toothpastes on the Oral Flora*

---

**Marshall Bobier** – Regina – SK  
*R-U Insulated*

---

**Hadlea Bradbury** – Simcoe County – ON  
*Gluten Tox*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Maria Brons** – Prince Albert & Northeast Saskatchewan – SK

*Eggs vs. Time*

---

**Kaitlyn Chan** – Vancouver Island – BC

*Greening the Flames: Investigating the abilities of plants to reduce the impact of wildfires*

---

**Armaan Chaudhari** – Western Manitoba – MB

*Antibiotics: Synthetic and Natural*

---

**Jasmine Chow** – West Kootenay & Boundary – BC

*Can chip bags be used as an emergency blanket?*

---

**Joshua Chow** – Calgary Youth – AB

*How Your Weight Could Be Putting You at Risk: Unraveling the Link between BMI and Colorectal Adenomas*

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**Maria Chzhen** – Bay Area – ON

*Comparison of Regression Algorithms in Multivariable Drought Modeling and Analysis*

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**Emma Coakley** – South-East New Brunswick – NB

*Inflatable Pouch Motors in Upper Limb Prosthetics*

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**Emmersyn da Mata, Hailee Marshall** – Frontier Schools – MB

*Walk your Butt to the Can*

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**Julia Dargacz** – Niagara – ON

*The Progress Towards the Synthesis of Silatrane Lipid Head Groups*

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**Sietse de Backer** – Prince Edward Island – PE

*Synced Up: Comparing Methods to Scale Synchronized Servers*

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**Dexter Deheer** – Central Alberta Rotary – AB

*Can you Crypto Mine with a RaspberryPi?*

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**Justin Du** – Greater Vancouver – BC

*Interrsect: Aggregated Note Summarization by Machine Learning*

---

**Mac Dykeman** – 4-H Canada – CA

*An Innovative Approach to Ammonia Control in Poultry Operations*

---

**Aiyaan Faisal** – Winnipeg Schools – MB

*Exploration of Genetic Algorithm for Function Optimization*

---

**Claire Friesen** – Central Alberta Rotary – AB

*The Way It Flows: Laminar vs. Turbulent*

---

**Swas Ghosh** – Northern British Columbia – BC

*Green Pools of CO<sub>2</sub>: The Effects of CO<sub>2</sub> on Household Plants*

---

**Deepraj Singh Gill** – Fraser Valley – BC

*How a Commercial Jetliner Functions*

---

**Angelina Hang, Noah Oliver Pang** – Greater Vancouver – BC

*Turning Algae Into Fibers: The Solution to Textile Waste*

---

**Micah Hansen** – Peace Country – AB

*Homemade Fertilizers*

---

**Ava Haynes** – Saskatchewan First Nations – SK

*Cyanobacteria*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Nyce Hazelwood** – Lethbridge – AB

*Biomagnification – When a little becomes a lot*

---

**Evan Howells** – Yukon Stikine – YT

*Flight of the Bumble Bee: Comparing pollen foraging patterns of bumble bees and honey bees in Yukon*

---

**Reine Huang** – Greater Vancouver – BC

*Detecting and Preventing Human Falling with Lateral Stability*

---

**Sterling Huang, Ethan Xu** – Toronto – ON

*HydroElectrica: Water Purification + Dual Electricity Generation System*

---

**Safwan Hussain** – Waterloo-Wellington – ON

*Building a Multiclass Brain Tumor Classification Model using a Convolutional Neural Network (CNN)*

---

**Kaleb Hussey** – South-East New Brunswick – NB

*The Effect of Weight Configuration and Load Knowledge on Trunk Motion in Adolescents*

---

**Jeffrey Ion** – Bay Area – ON

*Think Fast!*

---

**Nimish Jain** – Greater Vancouver – BC

*Highly Evolved Lip Learning mOdel (HELLO): A Novel Machine Learning Model for Accurate Lipreading.*

---

**Abigail Jennings** – Ottawa – ON

*Dress up: Gender Bias in Character Design*

---

**Tanya Jivani, Lalithya Raavi** – Wood Buffalo – AB

*From Raw to Cooked: Exploring Cooking Methods on Ascorbic Acid Retention in Tomatoes*

---

**Pathomphu Kanapornthada, Nutdanai Sunanthakhantharot** – Thailand – IN

*SAFEFALL: Fall Detection System using 3D Human Skeleton Model*

---

**Ben Kawa** – Sudbury – ON

*Driver Wake Up!*

---

**Sophie Kong** – Prince Edward Island – PE

*Soil Microbial Fuel Cell*

---

**Emily Krause, E'lise Nguyen** – Ottawa – ON

*M.E.P.*

---

**Liz Krelove, Karys Littlejohns** – Simcoe County – ON

*Investigating the effects of stimulants and depressants in aquatic pollutants on *Daphnia magna**

---

**William Larder** – Annapolis Valley – NS

*Culvert Remediation for Fish Passage in Barkhouse Brook*

---

**Anna Lawand** – Cape Breton – NS

*Natural Antibiotics Comparison Experiment*

---

**Maya LeBlanc** – Bay Area – ON

*Nitrous Oxide Reduction in an Industrial Wet Scrubber Utilizing NosZ Reductase and *P. denitrificans**



# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



---

**Jonathan Li** – Frontenac, Lennox & Addington – ON  
*Depressed or Not? Using Large Language Models to Predict Depression from Social Media Posts*

---

**William Li** – West Kootenay & Boundary – BC  
*Centrifugal Space Fitness Center*

---

**Ziang Li** – Bay Area – ON  
*I.C.: Predict Food Recipe from Image using CNN/Transformer & Knowledge Distillation for Portability*

---

**Shayan Mahmood** – Thames Valley – ON  
*Morphological Characterization of Imaged iPSC-Derived Endothelial Cells Using Machine Learning*

---

**Renzo Masiclat** – Southeast Alberta – AB  
*Cranberries: A Potential Treatment and Prophylaxis Against Urinary Tract Infections*

---

**Ariel Mason** – Calgary Youth – AB  
*Using Machine Learning to Detect Breast Cancer*

---

**Khafri Mau** – Greater Vancouver – BC  
*The First Step to Growing Plants on Mars*

---

**Rylie McGrath** – South-East New Brunswick – NB  
*The Moss Pit: Comparing the performance of three moss species local to Saint John on two substrates*

---

**Emily McKenna** – Winnipeg Schools – MB  
*Compaction Action: Measuring the effect of additives on soil compaction*

---

**Sia Mehta** – Simcoe County – ON  
*Glaze the Roof*

---

**Jad Menkara** – Windsor – ON  
*Novel Thermoelectric Generator for Automobile Exhaust Waste Heat Recovery*

---

**Katharine Morley** – Vancouver Island – BC  
*Plastered Plants Defeat Drought: Exploring the effects of ethanol on drought resistance in plants*

---

**Nila Munro, Donell O'Connor** – Strait – NS  
*Waste Not, Want Not; Enhancing Nuclear Energy Output*

---

**Anush Mutyala** – Peel – ON  
*Energyspike: Pioneering Wireless Mind-Control Implants using Energy-Efficient Neuromorphic Computing*

---

**Daniel Nashed** – Manitoba Schools Science Symposium – MB  
*Which one soundproofs best?*

---

**Annika Paliwal** – Bison – MB  
*A Long-Term Study Using Serious Games to Diagnose and Treat Dementia*

---

**Ria Patel** – Ottawa – ON  
*The Spark of Life: Exploration of neuromuscular junctions, insulin secretion, and cardiac regulation*

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**Shail Patel** – Frontenac, Lennox & Addington – ON  
*Dextera: An Affordable, Functional, Myoelectric Prosthetic Hand*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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**Alpita Patro** – Eastern Newfoundland – NL

*Investigating the Antibacterial Activity of Natural Remedies Against Non-Pathogenic E. coli*

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**Zenia Pereira, Nandika Senthilkumar** – Edmonton – AB

*Alex, the AI that Doesn't Exist*

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**Maggie Polischuk** – Sudbury – ON

*'Steer Clear' The Break-Away Steering Wheel!*

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**Izabela Quest** – Frontenac, Lennox & Addington – ON

*Stopping Cancer in its Tracks: How does fructose enable cancer cell metastasis?*

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**William Rodgers, Rylan Wainman** – Beaufort-Delta – NT

*Steroid Use*

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**Hanna Ryan** – Yukon Stikine – YT

*What's the best way to dry your hands?*

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**Mohamed Saleh** – Windsor – ON

*Pumpkin Plastic: An Innovative Bioplastic to Replace Petroleum-based Plastic*

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**Misimi Sanni** – Bay Area – ON

*Emerging Prosthetics: The Novel Development of a Cost-Effective Electronic Prosthetic Arm*

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**Rishi Shah** – Thames Valley – ON

*From Pixels to Precision*

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**Adara Shilling** – Greater Vancouver – BC

*Plastic Roots*

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**Rodin Shokravi, Kevin Yuan** – Greater Vancouver – BC

*A Novel System: Replicating Materials' Arithmetic Mean Height Using LRAs & Piezo Elements*

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**Roocha Shukla** – Waterloo-Wellington – ON

*The Power that Brings Flowers*

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**Prabhdeep Singh** – Thames Valley – ON

*Asion: An ML-powered Sky Navigation and Constellation Recognition System*

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**Ella Strachan** – Winnipeg Schools – MB

*Mapping Microplastics: Computer Modelling to Predict & Address Microplastic Accumulation in Lakes*

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**Jonas Tkacz** – Conseil scolaire acadien provincial – NS

*Un vaccin informatique: l'utilisation de l'intelligence artificielle pour combattre les virus*

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

*La conservation des chauves-souris, un défi de taille !*

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**Ayana Torres** – Ottawa – ON

*Amélioration de toiture: déflecteur de vent*

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**Beth Tubman** – Strait – NS

*From Flower to Flavour – How pollen type affects honey*

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**Afaq Virk** – United Counties – ON

*eIECHolocation: An Innovation to Mitigate Visual Impairment*

# Award Recipients

## Canada-Wide Science Fair 2023

### Edmonton, Alberta



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**Jack Washburn** – Frontenac, Lennox & Addington – ON

*Sham(e)poo: Clean Hair without the Dirty Secret Ingredients of Commercial Shampoos*

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**Mark Wendland** – Renfrew County – ON

*Tank Battles in 2D & 3D*

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**Errita Xu** – Toronto – ON

*Road Salt: Its Implications and Exploring Agro-Based Alternatives*

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**Brian Yin** – Bay Area – ON

*Student Engagement Rewards System*

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**Aaron Zhao** – Greater Vancouver – BC

*ExoTremor: A Low-Cost, 3D-Printed Exoskeleton that Suppresses Hand Tremors in Movement Disorder Patients*