

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix de La Fondation actuarielle du Canada

##### Junior

Sponsor: Prix de La Fondation actuarielle du Canada  
500 \$ en argent comptant et un certificat

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**Arushi Nath** – Toronto – ON

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

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#### Prix de La Fondation actuarielle du Canada

##### Intermédiaire

Sponsor: Prix de La Fondation actuarielle du Canada  
750 \$ en argent comptant et un certificat

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**Reine Huang** – Greater Vancouver – BC

*Detecting and Preventing Human Falling with Lateral Stability*

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#### Prix de La Fondation actuarielle du Canada

##### Sénior

Sponsor: Prix de La Fondation actuarielle du Canada  
1 000 \$ en argent comptant et un certificat

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

*An Earthshattering Coding Prophecy*

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#### Prix du Centre Beaty pour la découverte des espèces

##### Sénior

Sponsor: Prix du Centre Beaty pour la découverte des espèces  
1 000 \$ en argent, certificat et adhésion familiale du Musée canadien de la nature pour un an

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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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#### Prix de l'Association canadienne d'acoustique

##### Sénior

Sponsor: Prix de l'Association canadienne d'acoustique  
1 000 \$, en argent comptant, un certificat et un abonnement au périodique trimestriel de l'Association canadienne de l'acoustique

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

*How Playing an Instrument Benefits Youth Mental Health*

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#### Prix de l'Association pour l'intelligence artificielle au Canada

##### Junior

Sponsor: Prix de l'Association pour l'intelligence artificielle au Canada  
500 \$ en argent comptant et un certificat

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

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

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#### Prix de l'Association Botanique du Canada

##### Junior

Sponsor: Prix de l'Association Botanique du Canada  
500 \$ en argent comptant et un certificat

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**Sebastian Audet** – Pacific Northwest – BC

*Seymour Lake is having a Floating Heart attack*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix de la Société canadienne des clinico-chimistes

##### Sénior

Sponsor: Prix de la Société canadienne des clinico-chimistes  
1 000 \$ en argent comptant et un certificat

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**Albert Guo** – South Fraser – BC

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

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#### Prix du concours junior canadien au sujet de l'eau, à Stockholm

##### Sénior

Sponsor: Prix du concours junior canadien au sujet de l'eau, à Stockholm  
Participation en personne au concours junior au sujet de l'eau présenté 28 août - 1er septembre 2022, projet gagnant afin de représenter le Canada au Concours junior international au sujet de l'eau, à Stockholm. Le second et le troisième recevront chacun un prix de 300 \$.

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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*

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#### Prix en physique de l'ACP

##### Sénior

Sponsor: Prix en physique de l'ACP  
1 000 \$ en argent comptant et un certificat

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**Afaq Virk** – United Counties – ON

*eECHOlocation: An Innovation to Mitigate Visual Impairment*

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#### Prix du Centre pour la durabilité du nucléaire canadien

##### Intermédiaire

Sponsor: Prix du Centre pour la durabilité du nucléaire canadien  
750 \$ en argent comptant et un certificat

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**Alia Wahban** – Bay Area – ON

*Replacing Natural Gas With Hydrogen Fuel to Power Ontario*

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#### Prix deutraMed pour l'innovation en chimie

##### Junior

Sponsor: Prix deutraMed pour l'innovation en chimie  
500 \$ en argent comptant et un certificat

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**Hudson Gibbs** – United Counties – ON

*Wait! Are the juice trucks out?*

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#### Prix de l'innovation Digital Moment

##### Junior

Sponsor: Prix de l'innovation Digital Moment  
500 \$ en argent comptant et un certificat

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

*Refugee Pal*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix de l'innovation Digital Moment

##### Intermédiaire

Sponsor: Prix de l'innovation Digital Moment  
750 \$ en argent comptant et un certificat

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

*Calmos*

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#### Prix de l'innovation Digital Moment

##### Sénior

Sponsor: Prix de l'innovation Digital Moment  
1 000 \$ en argent comptant et un certificat

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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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#### Prix de l'innovation en génie

##### Sénior

Sponsor: Prix de l'innovation en génie  
1 000 \$ en argent comptant et un certificat

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**Nik Artsimenia** – Calgary Youth – AB

*The "Helping Hand" Project*

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#### Prix d'excellence en astronomie

##### Junior

Sponsor: Prix d'excellence en astronomie  
Un télescope, un certificat et un abonnement d'un an à la SRAC

---

**Arushi Nath** – Toronto – ON

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

---

#### Prix d'excellence en astronomie

##### Intermédiaire

Sponsor: Prix d'excellence en astronomie  
Un télescope, un certificat et un abonnement d'un an à la SRAC

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**Alexander Abesteh** – Ottawa – ON

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

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#### Prix de First Nations University of Canada (Université des Premières Nations du Canada)

##### Junior

Sponsor: Prix de First Nations University of Canada (Université des Premières Nations du Canada)  
500 \$ en argent comptant et un certificat

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

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

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#### Prix Génome Alberta et Génome Canada

##### Sénior

Sponsor: Prix Génome Alberta et Génome Canada  
1 000 \$ en argent comptant et un certificat

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**Elizabeth Chen** – Edmonton – AB

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix de l'énergie verte optimisée par l'hydrogène

##### Sénior

Sponsor: Prix de l'énergie verte optimisée par l'hydrogène  
1 000 \$ en argent comptant et un certificat

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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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#### Prix « Intact » pour la résilience aux changements climatiques

##### Junior

Sponsor: Prix « Intact » pour la résilience aux changements climatiques  
500 \$ en argent comptant et un certificat

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**Aryan Sharma** – Calgary Youth – AB

*A Novel Solution to Plastic Pollution*

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#### Prix « Intact » pour la résilience aux changements climatiques

##### Intermédiaire

Sponsor: Prix « Intact » pour la résilience aux changements climatiques  
750 \$ en argent comptant et un certificat

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**Fayhaa Kafi** – South Fraser – BC

*The Orange Brick 2.0*

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#### Prix « Intact » pour la résilience aux changements climatiques

##### Sénior

Sponsor: Prix « Intact » pour la résilience aux changements climatiques  
Une somme de 1 000 \$ en argent comptant et une visite virtuelle de l'Université de Waterloo et du Centre Intact sur l'adaptation aux changements climatiques, le principal centre de recherche canadien sur la résilience au changement climatique, à Waterloo (Ontario).

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

*Phytotron Ventilation: Seedling Survival in a Changing Environment*

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#### Prix de l'École d'été internationale pour les jeunes physiciens

##### Sénior

Sponsor: Prix de l'École d'été internationale pour les jeunes physiciens  
Un certificat et Le prix consiste en une bourse complète pour participer à l'École d'été internationale pour les jeunes physiciens 2023 (ISSYP 2023) du 17 au 28 juillet.

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**Kevin Shao** – Thames Valley – ON

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

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#### Prix de nanotechnologie pour une société durable

##### Junior

Sponsor: Prix de nanotechnologie pour une société durable  
500 \$ en argent comptant et un certificat

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**Ryhan Hammoud** – South Fraser – BC

*Smart Naloxone Kit*

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#### Prix de nanotechnologie pour une société durable

##### Intermédiaire

Sponsor: Prix de nanotechnologie pour une société durable  
750 \$ en argent comptant et un certificat

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**Sophia Zhang** – Eastern Newfoundland – NL

*Triboelectric Nanogenerator for Wind Energy Harvesting*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix de nanotechnologie pour une société durable

##### Sénior

Sponsor: Prix de nanotechnologie pour une société durable  
1 000 \$ en argent comptant et un certificat

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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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#### Prix de la fondation « Nutriments pour la vie »

##### Junior

Sponsor: Prix de la fondation « Nutriments pour la vie »  
500 \$, en argent comptant, un certificat

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

*Water is more than wet*

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#### Prix de l'énergie renouvelable

##### Junior

Sponsor: Prix de l'énergie renouvelable  
500 \$ en argent comptant et un certificat

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

*Pop Can Solar Heater*

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#### Prix de l'énergie renouvelable

##### Intermédiaire

Sponsor: Prix de l'énergie renouvelable  
750 \$ en argent comptant et un certificat

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

*How To Increase Solar Panel Energy Output*

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#### Prix de l'énergie renouvelable

##### Sénior

Sponsor: Prix de l'énergie renouvelable  
1 000 \$ en argent comptant et un certificat

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**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

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#### Prix S.M. Blair Family Foundation

##### Junior

Sponsor: Prix S.M. Blair Family Foundation  
500 \$ en argent comptant et un certificat

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

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

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#### Prix S.M. Blair Family Foundation

##### Intermédiaire

Sponsor: Prix S.M. Blair Family Foundation  
750 \$ en argent comptant et un certificat

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

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

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## Expo-sciences pancanadienne 2023

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#### Prix S.M. Blair Family Foundation

##### Sénior

Sponsor: Prix S.M. Blair Family Foundation  
1 000 \$ en argent comptant et un certificat

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

*Nail Braille: A Novel Approach Towards Braille Education*

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#### Bourses d'étude Shad Canada

##### Intermédiaire

Sponsor: Bourses d'étude Shad Canada  
Certificate. Il s'agit d'une bourse de 1 000 \$ pour couvrir les frais de participation au programme Shad en juillet 2024. Pour être admissible à la bourse, la ou le finaliste doit poser sa candidature et être admis au programme pendant le cycle de candidatures Shad 2024.

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**Spencer Pearce** – Western Manitoba – MB

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

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#### Bourses d'étude Shad Canada

##### Intermédiaire

Sponsor: Bourses d'étude Shad Canada  
Certificate. Il s'agit d'une bourse de 2 000 \$ pour couvrir les frais de participation au programme Shad en juillet 2024. Pour être admissible à la bourse, la ou le finaliste doit poser sa candidature et être admis au programme pendant le cycle de candidatures Shad 2024.

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

*La société et tes pensées*

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#### Bourses d'étude Shad Canada

##### Intermédiaire

Sponsor: Bourses d'étude Shad Canada  
Certificate. Il s'agit d'une bourse de 3 000 \$ pour couvrir les frais de participation au programme Shad en juillet 2024. Pour être admissible à la bourse, la ou le finaliste doit poser sa candidature et être admis au programme pendant le cycle de candidatures Shad 2024.

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**Vedant Sheel** – Bluewater – ON

*A Voice For The Voiceless*

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#### Prix de la Société statistique du Canada

##### Intermédiaire

Sponsor: Prix de la Société statistique du Canada  
750 \$ en argent comptant et un certificat

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**Jonathan Leung** – Greater Vancouver – BC

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

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#### Prix de la Société statistique du Canada

##### Sénior

Sponsor: Prix de la Société statistique du Canada  
1 000 \$ en argent comptant et un certificat

---

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

*An Earthshattering Coding Prophecy*

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#### Prix de la technologie en agriculture

##### Junior

Sponsor: Prix de la technologie en agriculture  
500 \$ en argent comptant et un certificat

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**Jordan LeBlanc** – Bay Area – ON

*Transferring Pollen Using a Mechanical Bee*

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## Expo-sciences pancanadienne 2023

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#### Prix de la technologie en agriculture

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750 \$ en argent comptant et un certificat

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**Thông Quách** – Saskatoon – SK

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

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#### Prix de la technologie en agriculture

##### Sénior

Sponsor: Prix de la technologie en agriculture  
1 000 \$ en argent comptant et un certificat

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**Mac Dykeman** – 4-H Canada – CA

*An Innovative Approach to Ammonia Control in Poultry Operations*

---

#### Bourse de recherche de premier cycle de l'Université d'Ottawa

##### Sénior

Sponsor: Bourse de recherche de premier cycle de l'Université d'Ottawa  
11 500 \$ research scholarship et certificat

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**Ava Fischer** – Simcoe County – ON

*exSTREAM FUNgi*

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#### Prix d'excellence - bronze

##### Junior

Sponsor: Prix d'excellence - bronze  
Médaille et un certificat

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**Luca Agnello** – Ottawa – ON

*Énergie volcanique*

---

**Maggie Alexander** – Renfrew County – ON

*Who's Cell Phone is the Grossest?*

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**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*

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**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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

*How a Commercial Jetliner Functions*

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**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.*

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

*Centrifugal Space Fitness Center*

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**Ariel Mason** – Calgary Youth – AB

*Using Machine Learning to Detect Breast Cancer*

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**Khafri Mau** – Greater Vancouver – BC

*The First Step to Growing Plants on Mars*

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**Emily McKenna** – Winnipeg Schools – MB

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

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**Sia Mehta** – Simcoe County – ON

*Glaze the Roof*

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

*Which one soundproofs best?*

---

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

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

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**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*

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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*



# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

#### Prix d'excellence - bronze

##### Intermédiaire

Sponsor: Prix d'excellence - bronze

Médaille et un certificat

---

**Alexander Abesteh** – Ottawa – ON

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

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**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*

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**Armaan Chaudhari** – Western Manitoba – MB

*Antibiotics: Synthetic and Natural*

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**Aiyaan Faisal** – Winnipeg Schools – MB

*Exploration of Genetic Algorithm for Function Optimization*

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

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

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

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

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**Micah Hansen** – Peace Country – AB

*Homemade Fertilizers*

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**Nycea Hazelwood** – Lethbridge – AB

*Biomagnification – When a little becomes a lot*

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**Reine Huang** – Greater Vancouver – BC

*Detecting and Preventing Human Falling with Lateral Stability*

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

*HydroElectrica: Water Purification + Dual Electricity Generation System*

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**Nimish Jain** – Greater Vancouver – BC

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

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

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

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

*Soil Microbial Fuel Cell*

---

**William Larder** – Annapolis Valley – NS

*Culvert Remediation for Fish Passage in Barkhouse Brook*

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**Anna Lawand** – Cape Breton – NS

*Natural Antibiotics Comparison Experiment*

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**Maya LeBlanc** – Bay Area – ON

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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**Jad Menkara** – Windsor – ON

*Novel Thermoelectric Generator for Automobile Exhaust Waste Heat Recovery*

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**Katharine Morley** – Vancouver Island – BC

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

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

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

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**Mohamed Saleh** – Windsor – ON

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

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**Rishi Shah** – Thames Valley – ON

*From Pixels to Precision*

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**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*

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**Ella Strachan** – Winnipeg Schools – MB

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

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**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*

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### Prix d'excellence - bronze

#### Sénior

Sponsor: Prix d'excellence - bronze

Médaille et un certificat

---

**Hannah Allen** – South Shore – NS

*Food for Thought*

---

**Hadlea Bradbury** – Simcoe County – ON

*Gluten Tox*

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**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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**Julia Dargacz** – Niagara – ON

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

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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*

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

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

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

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

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**Anush Mutyala** – Peel – ON

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

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**Annika Paliwal** – Bison – MB

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

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**Ria Patel** – Ottawa – ON

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

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

*Steroid Use*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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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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**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*

---

**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*

---

#### Prix d'excellence - argent

##### Junior

Sponsor: Prix d'excellence - argent

Médaille et un certificat

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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?*

---

#### Prix d'excellence - argent

##### Intermédiaire

Sponsor: Prix d'excellence - argent

Médaille et un certificat

---

**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*

---

**Sarah Murimboh** – Annapolis Valley – NS

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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*

---

### Prix d'excellence - argent

#### Sénior

Sponsor: Prix d'excellence - argent

Médaille et un certificat

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**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

---

**Nik Artsimenia** – 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)*

---

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

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

---

#### Prix d'excellence - or

##### Junior

Sponsor: Prix d'excellence - or  
Médaille et un certificat

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

---

#### Prix d'excellence - or Intermédiaire

Sponsor: Prix d'excellence - or  
Médaille et un certificat

---

**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?*

---

#### Prix d'excellence - or Sénior

Sponsor: Prix d'excellence - or  
Médaille et un certificat

---

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



# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

---

#### Prix du défi - Agriculture, pêche et alimentation

##### Junior

Sponsor: Prix du défi - Agriculture, pêche et alimentation  
certificat

---

**Jordan LeBlanc** – Bay Area – ON

*Transferring Pollen Using a Mechanical Bee*

---

#### Prix du défi - Agriculture, pêche et alimentation

##### Intermédiaire

Sponsor: Prix du défi - Agriculture, pêche et alimentation  
certificat

---

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

*Drone Assisted Orchard Assessment*

---

#### Prix du défi - Agriculture, pêche et alimentation

##### Sénior

Sponsor: Prix du défi - Agriculture, pêche et alimentation  
certificat

---

**Hannah Allen** – South Shore – NS

*Food for Thought*

---

#### Prix du défi - Curiosité et ingéniosité

##### Junior

Sponsor: Prix du défi - Curiosité et ingéniosité

---

**Arushi Nath** – Toronto – ON

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix du défi - Curiosité et ingéniosité

##### Intermédiaire

Sponsor: Prix du défi - Curiosité et ingéniosité

---

**Bram St. Peters** – Halifax – NS

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

---

#### Prix du défi - Curiosité et ingéniosité

##### Sénior

Sponsor: Prix du défi - Curiosité et ingéniosité

---

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

*Auto-Pend Lab*

---

#### Prix du défi - Technologie numérique

##### Junior

Sponsor: Prix du défi - Technologie numérique

---

**Richard Ilioukevitch** – Northwest Saskatchewan – SK

*The Rescue Rangers Autonomous Robotic Search and Rescue System*

---

#### Prix du défi - Technologie numérique

##### Intermédiaire

Sponsor: Prix du défi - Technologie numérique

---

**Yurui Qin** – Saskatoon – SK

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

---

#### Prix du défi - Technologie numérique

##### Sénior

Sponsor: Prix du défi - Technologie numérique

---

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

*Nail Braille: A Novel Approach Towards Braille Education*

---

#### Prix du défi - Maladies et infections

##### Junior

Sponsor: Prix du défi - Maladies et infections

---

**Andrei Marti** – Vancouver Island – BC

*Sweet Scores*

---

#### Prix du défi - Maladies et infections

##### Intermédiaire

Sponsor: Prix du défi - Maladies et infections

---

**Tesko Chaganti** – YSC Virtual – CA

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

---

#### Prix du défi - Maladies et infections

##### Sénior

Sponsor: Prix du défi - Maladies et infections

---

**Elizabeth Chen** – Edmonton – AB

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix du défi - Énergie

##### Junior

Sponsor: Prix du défi - Énergie

---

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

---

#### Prix du défi - Énergie

##### Intermédiaire

Sponsor: Prix du défi - Énergie

---

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

---

#### Prix du défi - Énergie

##### Sénior

Sponsor: Prix du défi - Énergie

---

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

---

#### Prix du défi - Environnement et changement climatique

##### Junior

Sponsor: Prix du défi - Environnement et changement climatique

---

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

---

#### Prix du défi - Environnement et changement climatique

##### Intermédiaire

Sponsor: Prix du défi - Environnement et changement climatique

---

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

---

#### Prix du défi - Environnement et changement climatique

##### Sénior

Sponsor: Prix du défi - Environnement et changement climatique

---

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

---

#### Prix du défi - Santé ou bien être

##### Junior

Sponsor: Prix du défi - Santé ou bien être

---

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

---

#### Prix du défi - Santé ou bien être

##### Intermédiaire

Sponsor: Prix du défi - Santé ou bien être

---

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix du défi - Santé ou bien être

##### Sénior

Sponsor: Prix du défi - Santé ou bien être

---

**Safia Deol** – Lambton County – ON

*The IncrediGels: Multifaceted Biopolymers for Dental Procedures*

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#### Prix du défi - Ressources naturelles

##### Junior

Sponsor: Prix du défi - Ressources naturelles

---

**Caroline Chan** – Toronto – ON

*RecycleBot: An AI Enabled Waste Sorting Trash Can*

---

#### Prix du défi - Ressources naturelles

##### Intermédiaire

Sponsor: Prix du défi - Ressources naturelles

---

**Sophia Zhang** – Eastern Newfoundland – NL

*Triboelectric Nanogenerator for Wind Energy Harvesting*

---

#### Prix Sanofi Biogenius Canada

##### Junior

Sponsor: Prix Sanofi Biogenius Canada

Trois projets recevront chacun un prix de 500 \$ en argent comptant et un certificat

---

**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?*

---

#### Prix Sanofi Biogenius Canada

##### Intermédiaire

Sponsor: Prix Sanofi Biogenius Canada

Trois projets recevront chacun un prix de 750 \$ en argent comptant et un certificat

---

**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*

---

#### Prix Sanofi Biogenius Canada

##### Sénior

Sponsor: Prix Sanofi Biogenius Canada

Trois projets reçoivent chacun un prix de 1 000 \$ en argent comptant et un certificat

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**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*

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# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix Jeunesse innovante

##### Junior

Sponsor: Prix Jeunesse innovante  
500 \$ en argent comptant, prix de présentation et un certificat

---

**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*

---

#### Prix Jeunesse innovante

##### Intermédiaire

Sponsor: Prix Jeunesse innovante  
750 \$ en argent comptant, prix de présentation et un certificat

---

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

---

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

---

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

---

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

---

#### Prix Jeunesse innovante

##### Sénior

Sponsor: Prix Jeunesse innovante  
1 000 \$ en argent comptant, prix de présentation et un certificat

---

**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)*

---

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

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**Aahaan Maini** – Bay Area – ON

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

---

#### Prix Jeunesse innovante

##### Sénior

Sponsor: Prix Jeunesse innovante

En plus une bourse de 7 000 \$ en argent comptant

---

**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)*

---

**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*

---

#### Prix platine - découverte

##### Junior

Sponsor: Prix platine - découverte

prix en cristal

---

**Andrei Marti** – Vancouver Island – BC

*Sweet Scores*

---

#### Prix platine - découverte

##### Intermédiaire

Sponsor: Prix platine - découverte

prix en cristal

---

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

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

---

#### Prix platine - innovation

##### Intermédiaire

Sponsor: Prix platine - innovation

prix en cristal

---

**Yurui Qin** – Saskatoon – SK

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

---

#### Prix platine - innovation

##### Sénior

Sponsor: Prix platine - innovation

prix en cristal

---

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

*Nail Braille: A Novel Approach Towards Braille Education*

---

#### Prix du meilleur projet - découverte

##### Ouvert

Sponsor: Prix du meilleur projet - découverte

prix en cristal

---

**Elizabeth Chen** – Edmonton – AB

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

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# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Prix du meilleur projet - innovation

##### Ouvert

Sponsor: Prix du meilleur projet - innovation  
prix en cristal

---

**Arushi Nath** – Toronto – ON

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

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#### Bourse de début d'études de la Faculté des sciences de l'Université Dalhousie

##### Sénior

Sponsor: Bourse de début d'études de la Faculté des sciences de l'Université Dalhousie  
Médaille d'or, sénior - Bourse d'admission de 5 000 \$

---

**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*

---

**Jasmin Pelletier** – Réseau Technoscience – QC

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

---

**Camela Temacini** – Niagara – ON

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

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---

#### Bourse de début d'études de la Faculté des sciences de l'Université Dalhousie

##### Sénior

Sponsor: Bourse de début d'études de la Faculté des sciences de l'Université Dalhousie  
Médaille d'argent, sénior - Bourse d'admission de 2 500 \$

---

**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*

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# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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*

---

**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*



# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

#### Bourse de début d'études en sciences de UBC (Vancouver)

##### Sénior

Sponsor: Bourse de début d'études en sciences de UBC (Vancouver)

Médaille d'or, sénior - Bourse de début d'études de 4 000 \$

---

**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*

---

**Jasmin Pelletier** – Réseau Technoscience – QC

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

---

**Camela Temacini** – Niagara – ON

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

---

#### Bourses de début d'études de l'Université de l'Alberta

##### Ouvert

Sponsor: Bourses de début d'études de l'Université de l'Alberta

Une bourse d'entrée de 5 000 \$ est offerte à chaque lauréat de la médaille d'or.

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

<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>

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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*

---

#### Bourses de début d'études de l'Université de l'Alberta

##### Ouvert

Sponsor: Bourses de début d'études de l'Université de l'Alberta

Une bourse d'entrée de 2 500 \$ est offerte à chaque lauréat de la médaille d'argent.

---

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

*Pill Smart*

---

**Mariane Angers** – Réseau Technoscience – QC

*Vert Houlo, Wh*

---

**Nik Artsimenia** – 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*

---

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

*What is radiation?*

---

**Riley Edmunds** – Lambton County – ON

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

---

#### Bourses de début d'études de l'Université de l'Alberta

##### Ouvert

Sponsor: Bourses de début d'études de l'Université de l'Alberta  
Une bourse d'entrée de 1 500 \$ est offerte à chaque lauréat de la médaille de bronze.

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

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

---

**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*

---

**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*

---

**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?*

---

**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*

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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

---

**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*

---

**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**



# Récipiendaires des prix

## Expo-sciences pancanadienne 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*

---

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

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

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**Alpita Patro** – Eastern Newfoundland – NL

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

---

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

*Alex, the AI that Doesn't Exist*

---

**Maggie Polischuk** – Sudbury – ON

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

---

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

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

---

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

*Steroid Use*

---

**Hanna Ryan** – Yukon Stikine – YT

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

---

**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*

---

**Rishi Shah** – Thames Valley – ON

*From Pixels to Precision*

---

**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*

---

**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*

---

**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*

---

**Afaq Virk** – United Counties – ON

*eIECHolocation: An Innovation to Mitigate Visual Impairment*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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*

---

**Aaron Zhao** – Greater Vancouver – BC

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

---

#### Bourse de début d'études de l'Université du Manitoba

##### Sénior

Sponsor: Bourse de début d'études de l'Université du Manitoba

Médaille d'or, sénior - Bourse d'admission de 5 000 \$

---

**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*

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**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*

---

**Ava Fischer** – Simcoe County – ON

*exSTREAM FUNgi*

---

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

*Auto-Pend Lab*

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**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?*

---

**Camela Temacini** – Niagara – ON

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

---

#### Bourse d'études de l'expo-sciences pancanadienne de l'Université du Nouveau-Brunswick

##### Sénior

Sponsor: Bourse d'études de l'expo-sciences pancanadienne de l'Université du Nouveau-Brunswick

Médaille d'or – Bourse d'admission de 5 000 \$

---

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

*Phytotron Ventilation: Seedling Survival in a Changing Environment*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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

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### Bourse d'études de l'expo-sciences pancanadienne de l'Université du Nouveau-Brunswick

#### Sénior

Sponsor: Bourse d'études de l'expo-sciences pancanadienne de l'Université du Nouveau-Brunswick

Médaille d'argent – Bourse 1<sup>re</sup> admission de 2 500 \$

---

**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)*

---

**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*

---

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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*

---

### Bourse de début d'études de l'Université d'Ottawa

#### Sénior

Sponsor: Bourse de début d'études de l'Université d'Ottawa

Médaille d'or, sénior - Bourse d'admission de 4 000 \$

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

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# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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

---

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

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#### Bourse de début d'études de l'Université d'Ottawa

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Médaille d'argent, sénior - Bourse d'admission de 2 000 \$

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

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

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

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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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**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

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*Cyrene and Neurodegeneration*

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**Evan Warburton** – Vancouver Island – BC

*The Dual Dipole Radio Telescope*

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##### Sénior

Sponsor: Bourse de début d'études de l'Université d'Ottawa  
Médaille de bronze, sénior – Bourse d'admission de 1 000 \$

---

**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*

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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*

---

**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*

---

**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*



# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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**Afaq Virk** – United Counties – ON

*eIECHolocation: An Innovation to Mitigate Visual Impairment*

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**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*

---

#### Bourse de début d'études de l'Université Western Ontario

##### Ouvert

Sponsor: Bourse de début d'études de l'Université Western Ontario

Médaille d'or - Bourse d'admission de 4 000 \$

---

**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*

---

**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*

---

**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*

---

**Renata Hollander** – Calgary Youth – AB

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

---

**Richard Ilioukevitch** – Northwest Saskatchewan – SK

*The Rescue Rangers Autonomous Robotic Search and Rescue System*

---

**Fayhaa Kafi** – South Fraser – BC

*The Orange Brick 2.0*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

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

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

---

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

*Auto-Pend Lab*

---

**Jordan LeBlanc** – Bay Area – ON

*Transferring Pollen Using a Mechanical Bee*

---

**Jonathan Leung** – Greater Vancouver – BC

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

---

**Andrei Marti** – Vancouver Island – BC

*Sweet Scores*

---

**Mateo Mathenge** – Halifax – NS

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

---

**Thomas Murimboh** – Annapolis Valley – NS

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

---

**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*

---

**Jasmin Pelletier** – Réseau Technoscience – QC

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

---

**Yurui Qin** – Saskatoon – SK

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

---

**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*

---

### Bourse de début d'études de l'Université Western Ontario

#### Ouvert

Sponsor: Bourse de début d'études de l'Université Western Ontario

Médaille d'argent - Bourse d'admission de 2 000 \$

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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**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?*

---

**Anthony Efthimiadis** – Bay Area – ON

*Diagnostic Screening of Basal Cell Carcinoma Cancer With AI*

---

**Tahlia Feldman** – Simcoe County – ON

*Battery Catastrophe*

---

**Chloe Fillion, Sophie Fillion** – 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*

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**Albert Guo** – South Fraser – BC

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

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# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**Ryvan 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*

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



---

**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*

---

**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*

# Récipiendaires des prix

## Expo-sciences pancanadienne 2023

### Edmonton (Alberta)



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#### Bourse de début d'études de l'Université Western Ontario

##### Ouvert

Sponsor: Bourse de début d'études de l'Université Western Ontario

Médaille de bronze - Bourse d'admission de 1 000 \$

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**Alexander Abesteh** – Ottawa – ON

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

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**Luca Agnello** – Ottawa – ON

*Énergie volcanique*

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

*Changing the way we refill electric cars*

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**Maggie Alexander** – Renfrew County – ON

*Who's Cell Phone is the Grossest?*

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**Imran Allarakhia** – Bay Area – ON

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

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**Hannah Allen** – South Shore – NS

*Food for Thought*

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

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

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**Sebastian Audet** – Pacific Northwest – BC

*Seymour Lake is having a Floating Heart attack*

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**Alexandra Bishop** – Algoma Rotary – ON

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

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**Marshall Bobier** – Regina – SK

*R-U Insulated*

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**Hadlea Bradbury** – Simcoe County – ON

*Gluten Tox*

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

*Eggs vs. Time*

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**Kaitlyn Chan** – Vancouver Island – BC

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

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**Armaan Chaudhari** – Western Manitoba – MB

*Antibiotics: Synthetic and Natural*

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

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

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**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

*Intersect: Aggregated Note Summarization by Machine Learning*

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**Mac Dykeman** – 4-H Canada – CA

*An Innovative Approach to Ammonia Control in Poultry Operations*

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**Aiyaan Faisal** – Winnipeg Schools – MB

*Exploration of Genetic Algorithm for Function Optimization*

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

*The Way It Flows: Laminar vs. Turbulent*

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

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

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

*How a Commercial Jetliner Functions*

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

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

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**Micah Hansen** – Peace Country – AB

*Homemade Fertilizers*

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

*Cyanobacteria*

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**Nycea Hazelwood** – Lethbridge – AB

*Biomagnification – When a little becomes a lot*

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**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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**Reine Huang** – Greater Vancouver – BC

*Detecting and Preventing Human Falling with Lateral Stability*

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

*HydroElectrica: Water Purification + Dual Electricity Generation System*

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

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

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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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**Jeffrey Ion** – Bay Area – ON

*Think Fast!*

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**Nimish Jain** – Greater Vancouver – BC

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

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**Abigail Jennings** – Ottawa – ON

*Dress up: Gender Bias in Character Design*

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

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

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**Ben Kawa** – Sudbury – ON

*Driver Wake Up!*

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

*Soil Microbial Fuel Cell*

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

*M.E.P.*

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

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

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**William Larder** – Annapolis Valley – NS

*Culvert Remediation for Fish Passage in Barkhouse Brook*

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**Anna Lawand** – Cape Breton – NS

*Natural Antibiotics Comparison Experiment*

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**Maya LeBlanc** – Bay Area – ON

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

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

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

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

*Centrifugal Space Fitness Center*

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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*

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**Ariel Mason** – Calgary Youth – AB

*Using Machine Learning to Detect Breast Cancer*

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**Khafri Mau** – Greater Vancouver – BC

*The First Step to Growing Plants on Mars*

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

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



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<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>Katharine Morley</b> – Vancouver Island – BC <i>Plastered Plants Defeat Drought: Exploring the effects of ethanol on drought resistance in plants</i>
<b>Nila Munro, Donell O'Connor</b> – Strait – NS <i>Waste Not, Want Not; Enhancing Nuclear Energy Output</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>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>
<b>Zenia Pereira, Nandika Senthilkumar</b> – Edmonton – AB <i>Alex, the AI that Doesn't Exist</i>
<b>Maggie Polischuk</b> – Sudbury – ON <i>'Steer Clear' The Break-Away Steering Wheel!</i>
<b>Izabela Quest</b> – Frontenac, Lennox & Addington – ON <i>Stopping Cancer in its Tracks: How does fructose enable cancer cell metastasis?</i>
<b>William Rodgers, Rylan Wainman</b> – Beaufort-Delta – NT <i>Steroid Use</i>
<b>Hanna Ryan</b> – Yukon Stikine – YT <i>What's the best way to dry your hands?</i>
<b>Mohamed Saleh</b> – Windsor – ON <i>Pumpkin Plastic: An Innovative Bioplastic to Replace Petroleum-based Plastic</i>
<b>Misimi Sanni</b> – Bay Area – ON <i>Emerging Prosthetics: The Novel Development of a Cost-Effective Electronic Prosthetic Arm</i>
<b>Rishi Shah</b> – Thames Valley – ON <i>From Pixels to Precision</i>

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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

*eECHOlocation: An Innovation to Mitigate Visual Impairment*

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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*