

## A new generation of scientists is rising in Quebec

### Discover the winning projects of the Super Expo-sciences Hydro-Québec, Quebec Final 2026

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**Québec, April 19, 2026** — Réseau Technoscience unveils the winning teams of the Super Expo-sciences Hydro-Québec, Quebec Final 2026. More than 150 young people aged 12 to 20 from across Québec presented their scientific projects at Université Laval over the weekend. The jury awarded more than \$160,000 in prizes and scholarships to young scientists for the quality of their presentations. See the table of winning projects and teams below. Awards ceremony available on [Facebook](#) and [YouTube](#). Check out the official photo album from the event [here](#).

“Once again this year, the young participants in the Expo-sciences across Québec have demonstrated boundless creativity. These bright young minds represent a strong future for Hydro-Québec and for Quebec,” said François Brassard, Honorary President of the Super Expo-sciences, Executive Vice President and Chief Operating and Infrastructure Officer (interim) at Hydro-Québec.

“I would never have imagined, at 18, while trying to analyze the trajectories of Apollo lunar modules around the Moon for an Expo-sciences project, that I would one day become Scientific President of the Super Expo-sciences Hydro-Québec! These competitions give young people a unique opportunity to explore ambitious questions and apply their full creativity. Today, as a professor of astrophysics, I appreciate more than ever the importance of fostering curiosity, passion, and creativity in young people. It was a privilege to meet this next generation of scientists and discover their inspiring projects!” said Marie-Lou Gendron-Marsolais, Scientific President of the Super Expo-sciences Hydro-Québec 2026.

### The journey continues: Canada-Wide Science Fair

Ten winners were selected at the Québec Final to represent the province at the Canada-Wide Science Fair, which will take place in Edmonton, Alberta, from May 23 to 30, 2026.

The finalists representing Québec are:

- Project: *Spinocerebellar Ataxia Type 27B*, Sophie Iny, Collège Marianopolis (Montreal Regional Science and Technology Fair, pre-university)
- Project: *Sexualité féminine*, Florence Lapointe, Collège Saint-Joseph de Hull (Outaouais), Secondary 5
- Project: *ERgo*, Nu Kim Anh Ton and Zhijian Sun, Collège Dawson (Montreal Regional Science and Technology Fair), pre-university
- Project: *SmartCurb*, David Sementchouk and Wolf Santos Bouet, Collège Sainte-Anne, Lachine (Montréal-Laval), Secondary 4
- Project: *De l'utérus au labo*, Raphaëlle Montplaisir, Collège mariste de Québec (Québec et Chaudière-Appalaches), Secondary 3
- Project: *AI Sentry*, David Salasidis, Les écoles Azrieli Talmud Torah - Herzliah (Montreal Regional Science and Technology Fair), Secondary 5
- Project: *Les gants à percussion*, Olivier Houle, Polyvalente de Black Lake (Québec et Chaudière-Appalaches), Secondary 3
- Project: *Le noir absolu*, Antoine Boivin, École secondaire de l'Odyssée / Lafontaine (Saguenay-Lac-Saint-Jean), Secondary 1

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"I would like to thank our valued partners who contributed to the success of this event: our Presenting Partner Hydro-Québec; the ministère de l'Économie, de l'Innovation et de l'Énergie; our major partner Ubisoft, Université Laval, our host partner; as well as our collaborating partners Université de Montréal, Polytechnique Montréal, the FPPU, and the Faculté des sciences et de génie de l'Université Laval, along with our media partner Publications BLD. A special thank you to La Boîte à science Technoscience Québec Chaudière-Appalaches, our valued member with whom we worked hard to co-organize this memorable weekend. See you in April 2027, again at Université Laval, for what will be the 49th edition of the Super Expo-sciences Hydro-Québec," said Isabelle Jutras, Interim Executive Director of Réseau Technoscience.

### **FIRST PRIZE HYDRO-QUÉBEC (highest score awarded by judges)**

#### **Project: Spinocerebellar Ataxia Type 27B**

Spinocerebellar ataxia type 27B (SCA27B) is a late-onset neurodegenerative disorder causing slowly progressive gait ataxia. This study aimed to characterize functional disability progression over time and review preliminary evidence on 4-aminopyridine, a repurposed drug showing promise in some open-label studies. Use of a mobility aid as a function of age was modeled logistically from participant-

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level observations. The model supported overall slow disability progression. Furthermore, high proportions of participants treated with 4-aminopyridine across studies reported meaningful improvement. These findings help inform patients following a genetic diagnosis and demonstrate the need for placebo-controlled data on the effectiveness of 4-aminopyridine.

The project is led by Sophie Iny, a pre-university student (Montreal Regional Science and Technology Fair). She receives a \$1,500 scholarship, a trophy, and a trip to Baie-James for two people.

## ALL MEDALISTS

Réseau Technoscience awarded medals and scholarships to 15 individuals for their projects.

Project descriptions below were written by the participating teams.

## COLLEGE LEVEL

### Gold Medal – Collegial – \$300

**Project:** Spinocerebellar Ataxia Type 27B

**Team :** Sophie Iny, Montreal Regional Science and Technology Fair, Preuniversity

Spinocerebellar ataxia type 27B (SCA27B) is a late-onset neurodegenerative disorder causing slowly progressive gait ataxia. This study aimed to characterize functional disability progression over time and review preliminary evidence on 4-aminopyridine, a repurposed drug showing promise in some open-label studies. Use of a mobility aid as a function of age was modeled logistically from participant-level observations. The model supported overall slow disability progression. Furthermore, high proportions of participants treated with 4-aminopyridine across studies reported meaningful improvement. These findings help inform patients following a genetic diagnosis and demonstrate the need for placebo-controlled data on the effectiveness of 4-aminopyridine.

### Silver Medal – Collegial – \$200

**Project:** *Ergo*

**Team:** Nu Kim Anh Ton et Zhijian Sun, Montreal Regional Science and Technology Fair, Preuniversity

ERgo is a computer simulation designed to tackle the chronic overcrowding and excessive wait times within Quebec's emergency rooms. Using open-sourced hourly ER datasets from the Quebec government and the Canadian Triage and Acuity Scale (CTAS), the project models a Montreal-area ER to test various patient

prioritization policies. By simulating strategies like time-dependent prioritization and routing based on treatment length in a risk-free virtual environment, ERgo identifies ways to optimize patient flow using existing resources. The goal is to provide data-driven solutions that reduce stretcher occupancy rates and improve overall healthcare efficiency.

### Bronze Medal – Collegial – \$100

**Project:** *Vers la théorie du tout: la supersymétrie*

**Team:** Chloé Beauchamp, Outaouais, Preuniversity

While Einstein's general relativity describes the motion of massive celestial bodies and objects traveling near the speed of light, quantum mechanics explains the behavior of subatomic particles. Both work well, but are completely incompatible. To achieve a complete description of the Universe and understand its origin, these two models would need to be unified—what is known as the theory of everything. This project explores a framework that attempts to approach this goal: supersymmetry.

### SENIOR LEVEL

#### Gold Medal – Senior – \$300

**Project:** Sexualité féminine

**Team:** Florence Lapointe, Outaouais, Secondary 5

We often hear about the famous “blue pill,” a miracle treatment for men with erectile dysfunction—but what about treatments for women experiencing sexual dysfunction? Could sildenafil, commonly known as “Viagra,” play a role in their treatment? By examining the topic, a subcategory emerges: female sexual arousal disorder. Clinically described as analogous to erectile dysfunction in men, this project evaluates the theoretical effectiveness of Viagra in treating it.

#### Silver Medal – Senior – \$200

**Project:** *SmartCurb*

**Team:** David Sementchouk et Wolf Santos Bouet, Montréal-Laval, Secondary 4

The SmartCurb project proposes a scientific and intelligent approach to bulky waste collection by combining artificial intelligence, real-time data, and pre-sweep. Pre-sweep identifies in advance the areas requiring collection, increasing operational efficiency and intervention accuracy. Route optimization reduces unnecessary travel, emissions, and vehicle wear. An integrated reuse platform

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promotes upcycling, circular economy practices, and modern, predictive, and sustainable waste management.

**Bronze Medal – Senior – \$100**

**Project:** *AI Sentry*

**Team :** David Salasidis, Montreal Regional Science and Technology Fair, Secondary 5

AI Sentry is a device capable of detecting, locking onto, and engaging with any targets in a given area. The design uses a computer connected to stereoscopic cameras and motors. Using AI, the cameras are capable of scanning for human-activity (a target). Once a target is found, the PAN (z-rotation axis) and TILT (x-rotation axis) motors rotate a “motion platform”, that is easily equipable with an attachment of choice (spotlight, paintball marker, ...), towards this target. Depending on the attachment mounted, the sentry then engages with the target accordingly (spotting, shooting, ...), repeating this process until there are no targets left.

**INTERMEDIATE LEVEL**

**Gold Medal – Intermediate – \$300**

**Project:** *De l'utérus au labo*

**Team:** Raphaëlle Montplaisir, Québec et Chaudière-Appalaches, Secondary 3

Each year, approximately 15 million babies are born prematurely worldwide. Extremely premature infants, born at 23 weeks or earlier, must be connected to multiple medical devices to ensure survival. These babies are often considered at high risk of long-term complications. In response, researchers have been working for over fifty years on ectogenesis using an artificial placenta. This system aims to recreate the maternal uterine environment, despite major challenges such as sterility, stability, and thrombosis risks.

**Silver Medal – Intermediate – \$200**

**Project:** *Les gants à percussion*

**Team :** Olivier Houle, Québec et Chaudière-Appalaches, Secondary 3

Percussion gloves are equipped with piezoelectric sensors capable of producing drum sounds with simple finger movements. This invention works with any electronic drum sound module and offers great mobility at an affordable cost. It can make percussion accessible to many people. In short, these gloves use a relatively unknown form of electricity, making them truly unique.

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## Bronze Medal – Intermediate – \$100

**Project:** *Parle à ma main!*

**Team :** Thomas Quilliam et Éliane Lajeunesse, Estrie, Secondary 3

Once worn, the IntelliGant (a glove equipped with sensors to capture hand movements) allows users to learn Québec Sign Language (LSQ) through its interactive app, *Parle à ma main!*, connected via Bluetooth. Similar to Duolingo, the app aims to provide a fun and accessible way to learn a new “language,” replacing spoken languages with LSQ. It also provides personalized feedback by transmitting sensor data to the app.

## JUNIOR LEVEL

### Gold Medal – Junior – \$300

**Project:** *Le noir absolu*

**Team :** Antoine Boivin, Saguenay - Lac-Saint-Jean, Secondary 3

This Expo-sciences project explores absolute black and whether it is possible to achieve it. It examines why researchers are interested in it, experiments conducted with materials such as carbon nanotubes, and potential applications of near-absolute black, as well as its properties and examples found in nature.

### Silver Medal – Junior – \$200

**Project:** *Quelle solution pour le transport durable au Canada? Maglev: futur idéal, environnement optimal*

**Équipe:** Abrare Ouhmidou, Montréal-Laval, Secondary 1

This is a design project on magnetic levitation trains (Maglev). It addresses the question: how can we create transportation systems that consume less energy, pollute less, and remain fast and reliable? The project aims to design and test a Maglev prototype, understand magnetic levitation, evaluate advantages and limitations, and determine the most suitable solution for Canada.

### Bronze Medal – Junior – \$100

**Project:** *Comment aller dans l'espace?*

**Team :** Nathan Jetté, Montérégie, Secondary 1

This project explores different aspects of space travel, including rockets such as Saturn V and Starship, and the stages of a space mission (launch, travel, return). It aims to help people better understand the secrets of a successful space mission.

## EVEN MORE AWARD WINNERS!

Discover the projects that received the other [awards here](#).

## Source

Réseau Technoscience

## Information and interview coordination

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## About Réseau Technoscience

[Réseau Technoscience](#), with members across Québec, aims to foster interest in science, technology, and innovation among young people while supporting the emergence of the next scientific generation. Each year, over 160,000 youth are reached through its programs, including Expo-sciences, Défis technologiques, Les Débrouillards, and Innovateurs à l'école et à la bibliothèque.

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