



# CBSN Youth Purpose & Welcome But et accueil des jeunes du RCSC

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# CBSN Youth: Black students K-12

Critical point (Grade 10):

STEM subjects (Physics, Chemistry, Math, Biology)

Initial platform:

Science fair competitions (Grade 7 – 12) for innovation, experiment training

Vision:

National network of pathway programs

Grade 10





# Canadian data - lacking

K-12: Toronto District School Board | Nova Scotia

UG- Professionals (2020): UC Data & Black Canadian physicists

Initiatives (2021): Beyond Borders Initiative, Securing Black Futures project

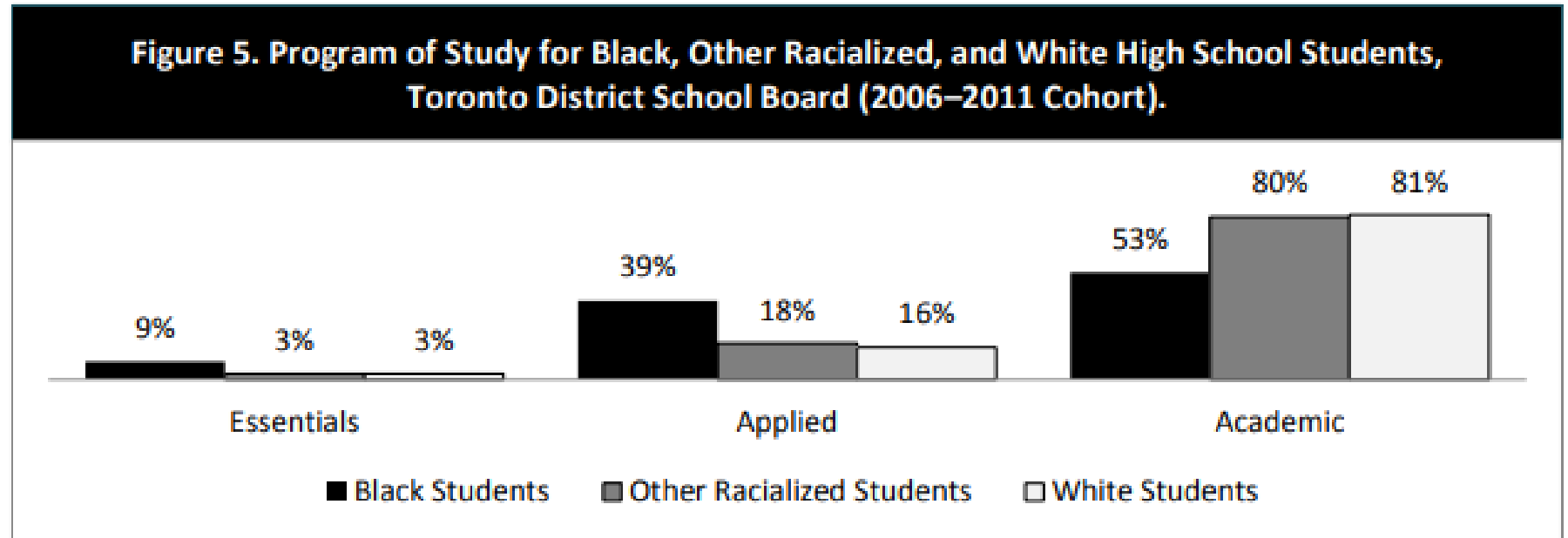
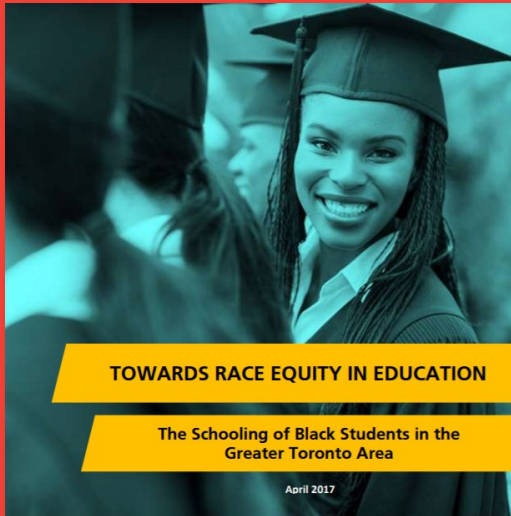


# 'Streaming' of Black students into non-academic courses



## K-12

James & Turner, 2017

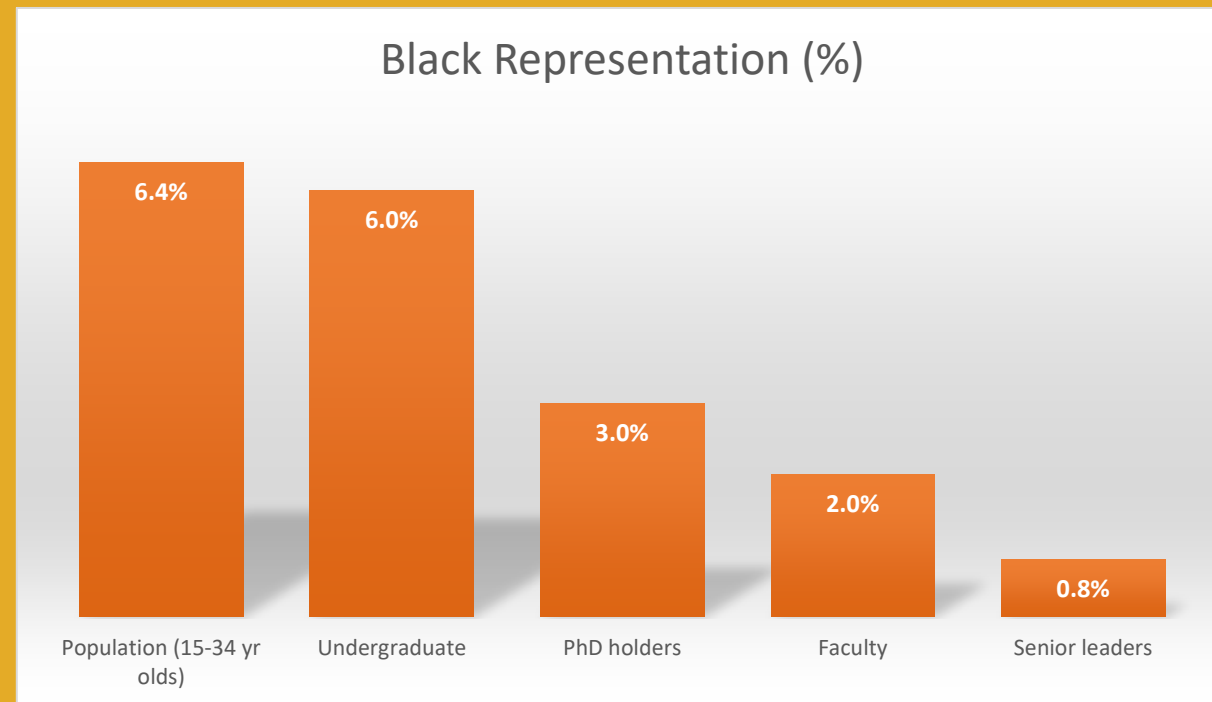


Source: York Centre for Education and Community/Toronto District School Board, 2015.





# Academic track – all disciplines





# Black Canadian physicists



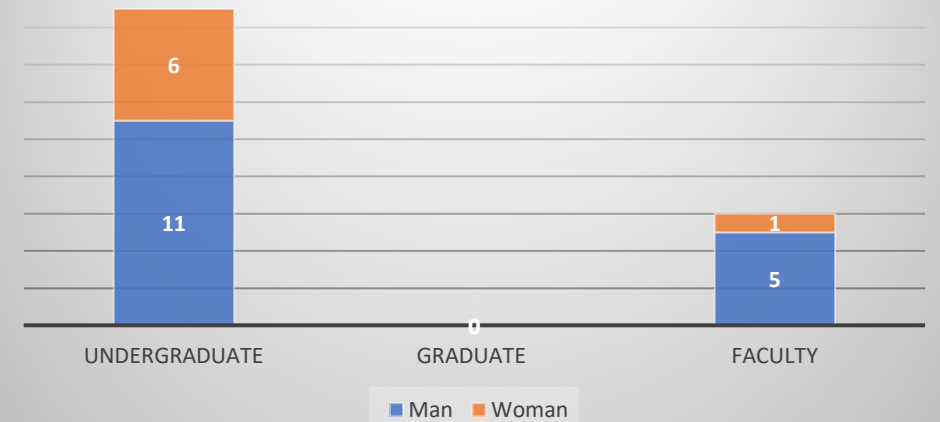
Only 1% of respondents identified as Black

*The largest group of respondents in all categories were White men*



DALHOUSIE  
UNIVERSITY

### Black Canadian Physicists





# Black students - Science fairs

All students in grade 7-12 (2.2 million):

- 1.2 % (25,000) participated in regional fairs (YSC report, 2021)
- 0.02 % (500) participated in the CWSF

Black students in grade 7-12 (140,000 est, 6.4%)

- 1.2% -> expect 1,600 in regionals
- 0.02% -> expect 32 in CWSF
- ONLY 4 (est) participated in 2021

YSC introduced self-ID Indigenous students last year, for Black students this year

A screenshot of a web-based survey titled "Finalist Registration Survey". The survey contains three sections of questions, each with radio button options:

- Section 1:** "Do you identify as Indigenous (First Nations, Métis, or Inuit)?\*" with options: Yes, No, Prefer not to answer.
- Section 2:** "Do you identify as a racialized person (member of a visible minority in Canada)?\*" with options: Yes, Black; Yes, Person of Colour; No; Prefer not to answer.
- Section 3:** "Please share your preferred pronouns: \*" with options: She/her; He/him; They/them; Prefer not to answer.





# STEM Fairs

## Regional

Find your local fair and learn how to participate!

[Learn More](#) →

**CWSF**  **ESPC**  
Canada-Wide Science Fair Expo-sciences pancanadienne

## National

Top projects from regional fairs go to the weeklong Canada-Wide Science Fair.

[Learn more](#) →

## International

Your STEM project could take you around the world!

[Learn more](#) →

ESF 197-1998 WELCOME TO MULTICULTURAL CANADA 2019 FCTVET  
**TEAM CANADA**  **ÉQUIPE CANADA**



# Grade and project categories



## Grade categories

**Junior** (Grade 7-8)

**Intermediate** (Grade 9-10)

**Senior** (Grade 11-12)



## Project categories

**Discovery** (includes experiment and study)

**Innovation**



# Restrictions

1 or 2 persons  
per project

You can only  
compete in **one**  
regional fair



# Project types



Experiment: An investigation to test a scientific hypothesis using the scientific method.



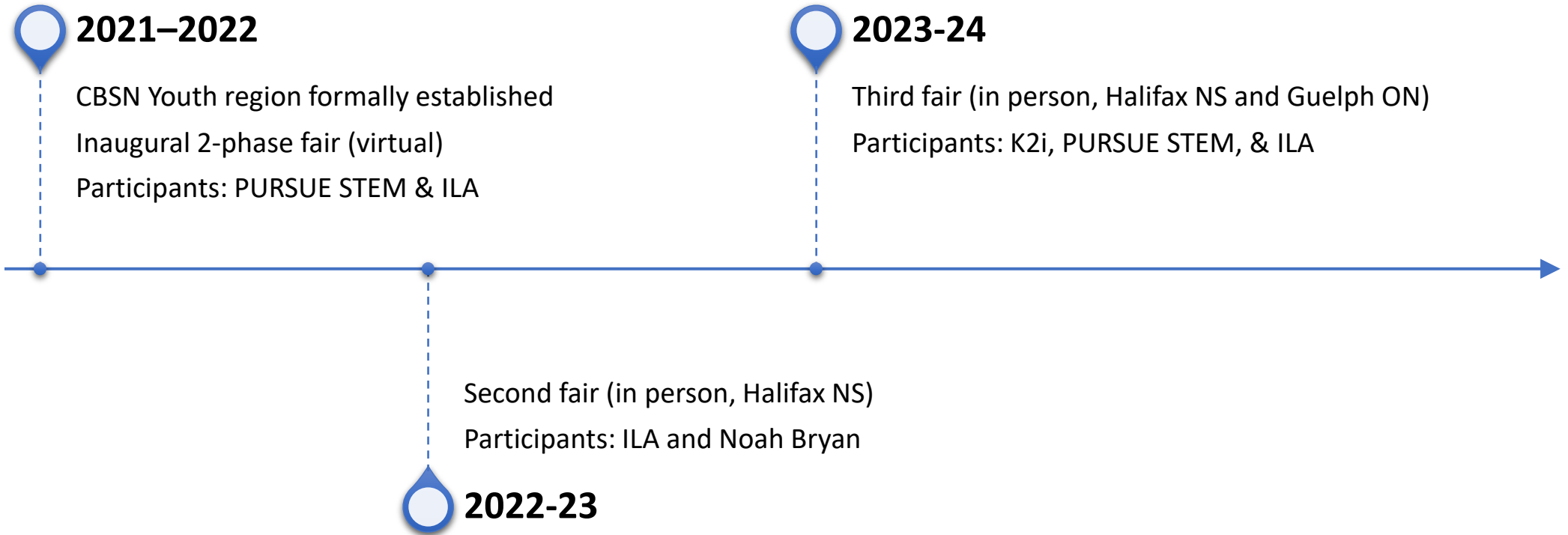
Study: A collection and analysis of data to reveal evidence of a fact, situation or pattern of scientific interest.



Innovation: The development and evaluation of innovative devices, models, or techniques.



# CBSN Science fair history





# Science fair schedule (2023-24)

23 Oct. 2023

Information session

25 Nov. 2023 (noon – 2 pm ET, online): **CBSN Phase I**

**Proposals**

Identify your passions, skills and what you aim to change in your home, community or the world.

Bring your proposals and get paired with a CBSN mentor.

Apr. 2024 (in person, Guelph, ON and Halifax, NS): **CBSN Phase II**

**Full Projects**

**Present your projects at the CBSN Science fair, hosted at the University of Guelph and Dalhousie University. Win prizes!**

25 May – 1 June 2024 (in person, Ottawa, ON): **Canada Wide Science Fair (CWSF)**

Top three CBSN-Y participants go onto the Canada Wide Science Fair (CWSF).

Get rewarded with cash prizes, free trip, university entrance scholarships and other recognition.

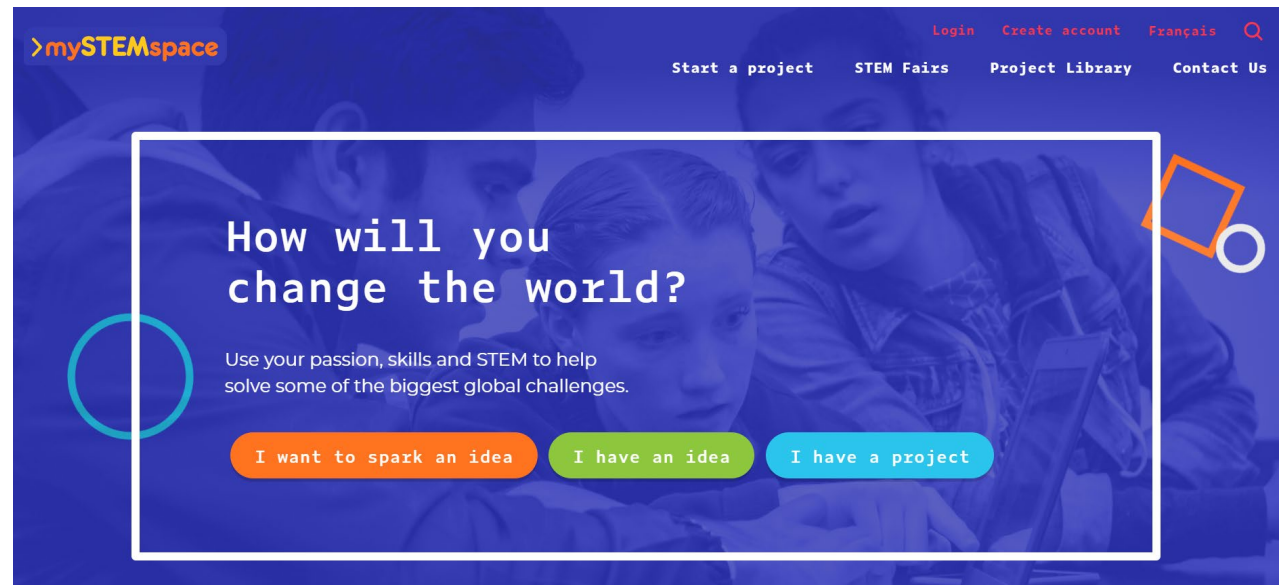
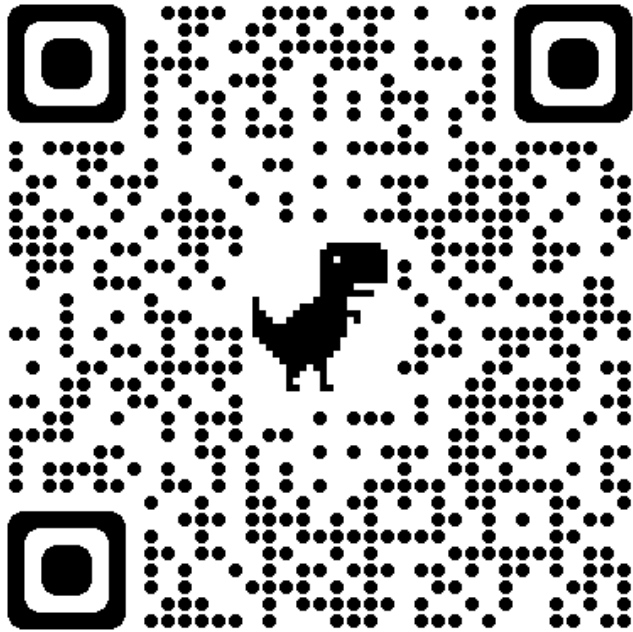
9–14 Sep. 2024 - **European Union Contest for Young Scientists (EUCYS), Katowice, Poland**

CWSF “Best in fair projects” are entered; free trip to Europe



# What you need to do between now and Nov. 25<sup>th</sup> ?

Explore mystemspace <https://mystemspace.ca/>





# What you need to do between now and Nov. 25<sup>th</sup> ?



**Create your account on mySTEMspace**

<https://youtu.be/ocU8dfsifCM>

*NOTE:* Link to the Canadian Black Scientists Network Youth region



**Create your project on ProjectBoard**

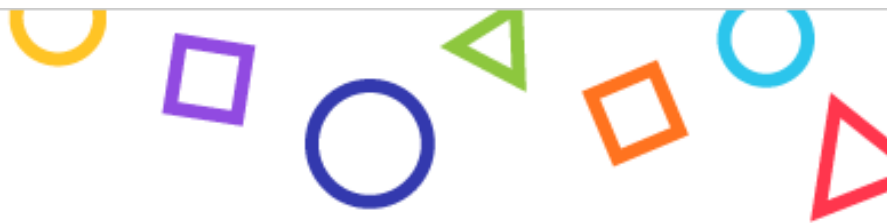
<https://youtu.be/CpLPhdB88PY>



**Submit your project to the CBSN Regional Science Fair**

<https://youtu.be/KWso5cU3nbY>





## My STEM Idea Brainstorm

### I am passionate about...

What I love, excited to spend time on

### I am good at...

Hobbies, school subjects, skills

### I want to change...

In my home, school, community, the world



#### Looking at the lists you created above:

- What things could be connected to become a possible project idea?
- What do you want to explore further?
- What could you create or build?
- What issues could your idea solve?

Jot down your ideas in your logbook and start your research!



# Brainstorm

I am passionate about... (what I love, excited to spend time on)

I am good at.. (hobbies , school subjects, skills)

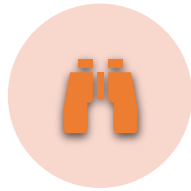
I want to change (in my home, school, community, the world)



# Consider your brainstorm list



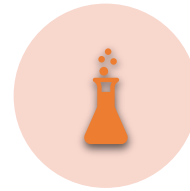
WHAT THINGS  
COULD BE  
CONNECTED  
TO BECOME A  
PROJECT IDEA?



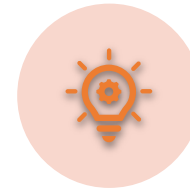
WHAT DO YOU  
WANT TO  
EXPLORE  
FURTHER?



WHAT COULD  
YOU CREATE  
OR BUILD?  
(INNOVATION)



WHAT  
EXPERIMENT  
OR STUDY CAN  
ANSWER YOUR  
QUESTION?  
(EXPERIMENT  
OR STUDY)



WHAT ISSUES  
COULD YOUR  
IDEA SOLVE?



JOT YOUR  
IDEAS DOWN  
IN YOUR  
**LOGBOOK** AND  
BEGIN



Before Nov 25

01

### Initiate & Plan

Start with what you are passionate about and what you're good at

[Learn more](#) →

Between Phase 1 (Nov. 25, 2023) and Phase 2 (April 2024)

02

### Perform & Record

Try out your idea and see what happens

[Learn more](#) →

03

### Analyze & Interpret

Think about what happened, and why

[Learn more](#) →

04

### Exhibit & Experience

Share your STEM project story

[Learn more](#) →



# Projectboard

LIVE CHAT

LIST VIEW GRID VIEW

<p>VIDEO</p>	<p>WHY?</p>	<p>HOW?</p>
<p>WHAT?</p>	<p>SO WHAT?</p>	<p>WHAT'S NEXT?</p>
<p>THANKS</p>	<p>REFERENCES</p>	

The image shows a grid of project cards in a 'GRID VIEW' layout. Each card features a background image of a microscope slide with a central circular inset showing a biological specimen. The cards are arranged in three rows and three columns. The first row contains cards for 'VIDEO', 'WHY?', and 'HOW?'. The second row contains cards for 'WHAT?', 'SO WHAT?', and 'WHAT'S NEXT?'. The third row contains cards for 'THANKS' and 'REFERENCES', with the third column being empty. Each card has a purple wavy bottom edge and a small square icon in the top right corner. The interface includes a 'LIVE CHAT' button at the top left and a search icon followed by 'LIST VIEW' and 'GRID VIEW' tabs at the top right.



# CBSN-Y Phase 1: What happens on Nov. 25<sup>th</sup> –?



Virtual meeting –  
Nov. 25,  
noon-2 pm



Present your  
idea



Answer  
questions



Receive  
feedback



Mentorship  
matching  
(local and  
virtual)



Begin your  
project with  
support from  
CBSN  
mentors



# CBSN-Y Phase II: What happens on April 2024?



Compete in person

Halifax, NS  
Guelph, ON



Present your full project



Projectboard reviewed by judges



Top three go onto Canada Wide Science Fair



# CWSF: What happens May 25- June 1, 2024?

Top three CBSN projects

All expenses paid trip to Ottawa, ON

Win medal (Platinum, Gold, Silver, Bronze)

Win Special prizes

Win university entrance scholarships

Best in fair entered into European Science Fair





# CBSN Results at CWSF 2022-23

**SILVER MEDAL**

*Joy Akinkunmi*

**PLATINUM & GOLD MEDAL**

*Noah Bryan*

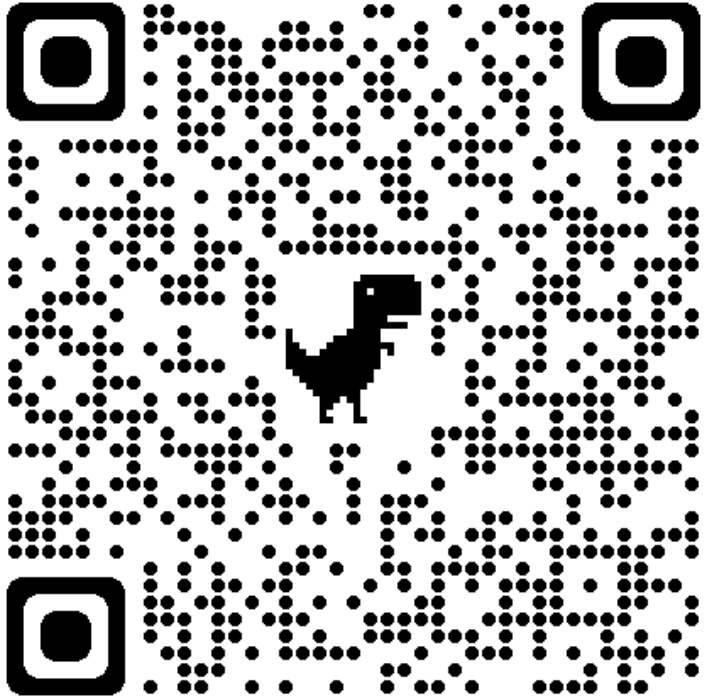
**BRONZE MEDAL**

*Munir Al Taher*

**CBSN  
RCSN**



# Munir Al-Tajer (Bronze medalist)



## Changing the way we refill electric cars

Climate change is caused by the increase in greenhouse gases in the atmosphere. This results in extreme weather and even human health problems. Electric car is one of many solutions. However, electric cars have a long charging time. A solution to this is overnight charging. This would not work for the millions of people who cannot spare that time. Luckily, this issue can be solved by battery swapping. My project sets to solve these issues of battery swapping by adapting to Canada's cold climate, as well as making the station able to serve all types of car brands.

[SEE LESS](#) ^

TEAM



ENERGY

# CA

# Innovation

# grade\_cwsf\_intermediate\_9/10



# Joy Akikunmi (Silver medalist)



## Pill Smart

Dementia is a neurodegenerative disease that takes control of cognitive functions of a person. Mostly affecting seniors, common symptoms such as memory loss, disorientation, and confusion make it hard to carry out daily tasks, such as taking medication. Low adherence is most common amongst seniors with cognitive impairments, which can be extremely dangerous.

The Pill Smart is designed to be an adaptive pill box for Dementia patients, complete with a reminder app for caregivers. The features I designed for Pill Smart using my prototypes are intended to make administering medication less stressful for patients and caregivers.

[SEE LESS](#) ^

TEAM



DISEASE & ILLNESS

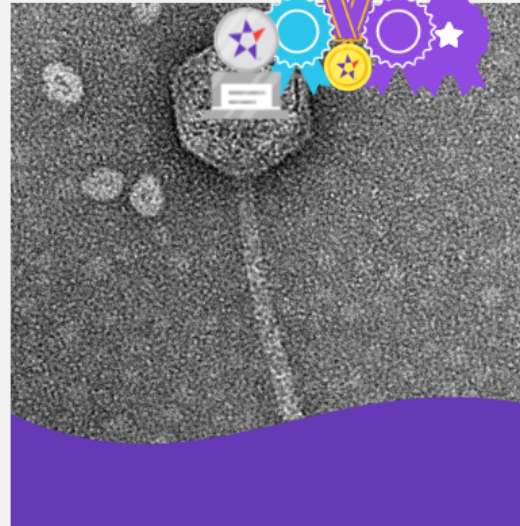
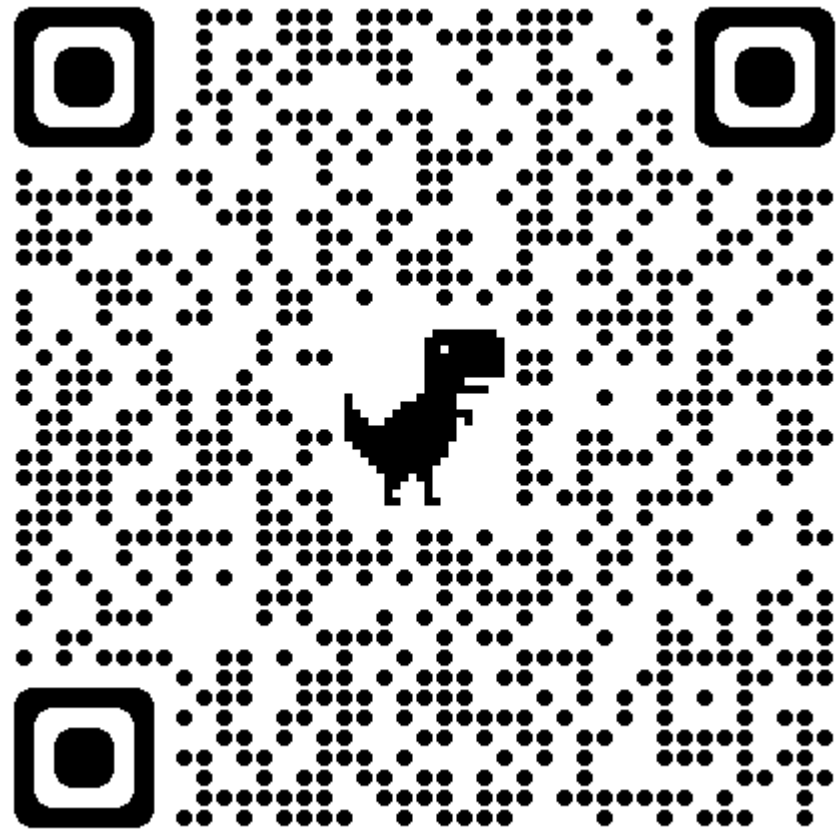
# CA

# Innovation

# grade\_cwsf\_intermediate\_9/10



# Noah Bryan (Gold and Platinum medalist)



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

Recent reports suggest illnesses caused by harmful bacteria in our community lake are due to animal feces contamination, but people continue to swim in the lake!

Coliphages (viruses that infect E.coli bacteria) are used as indicators of fecal contamination in water and my project studied coliphages as water quality indicators.

Using water samples from Lake Wilcox, coliphages were characterized by Microscopy and DNA Sequencing.

Results showed our isolated phage called NB1 could be used to assess bacterial contamination in water.

Future studies will develop a lakeside rapid water quality testing assay using phage detection to determine water safety for recreation.

[SEE LESS](#) ^

TEAM



ENVIRONMENT & CLIMATE CHANGE

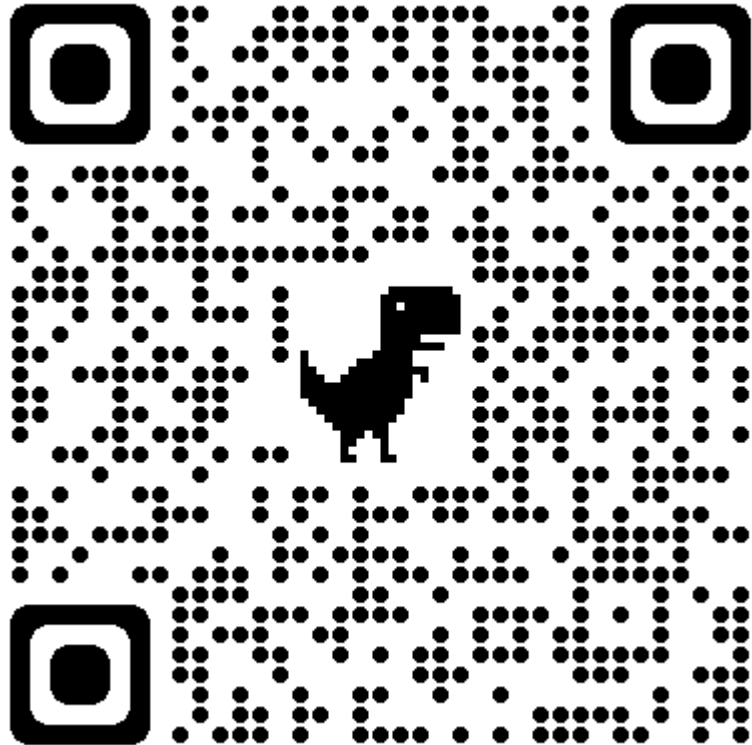
# CA

# Discovery

# grade\_cwsf\_intermediate\_9/10



For more information



<https://youthscience.ca/cbsny/about/>



# CBSN Youth Purpose & Welcome But et accueil des jeunes du RCSC

Dr. Lawrence Goodridge  
Professor, University of Guelph  
President Elect, CBSN  
CBSN-Youth regional Science fair co-chair

Prof. Université Guelph  
Le futur president du CBSN  
Coordonnateur régional RCSN-Jeunesse





# Noah Bryan

Bronze Medalist- CWSF 2021

Platinum and Gold medalist - 2023



