

about seed2STEM summer research program for Indigenous youth

STEM fields are critical for research advancements and Canada's economic success. There is high demand for jobs with STEM expertise, but Indigenous people remain under-represented in skilled, well-paid STEM jobs. The 2021 Census reports that nearly 12% of non-Indigenous Canadians hold post-secondary degrees in STEM fields, compared to ~4% of Indigenous individuals.¹ Empowering Indigenous youth through STEM education is crucial to promote equity in scientific fields and increase diverse perspectives in innovation. The seed2STEM program at the University of British Columbia (UBC) works to address this by providing Indigenous high school students with paid research experience in STEM labs in a fun and supportive environment.

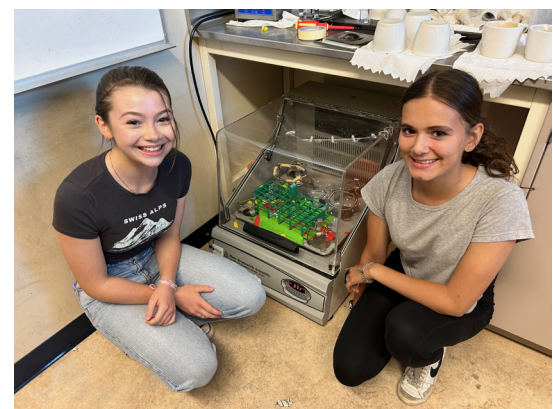
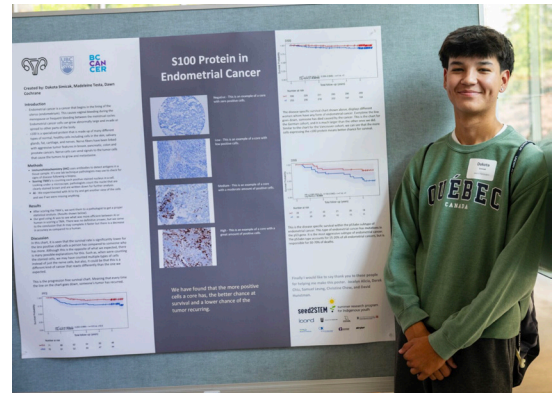
how seed2STEM works

In seed2STEM, university labs host Indigenous high school students in Grade 9-12 for 6-week, **paid summer research internships** on topics including neuroscience, engineering, chemistry, biology, medicine, math, physics, and other areas of STEM. **Students are paid minimum wage to work 25 hours/week.** In addition to their research projects, students take part in **weekly research-focused group activities**, learn from guest speakers (STEM professionals, Indigenous community members), and visit scientific and cultural places of interest. **Alumni** who go on to undergraduate post-secondary studies at any institution are invited to return for **4-month paid research assistantships**, and also act as mentors to high school students. Students are supervised by a diverse group of faculty, staff, graduate students and postdoctoral fellows who, in turn, gain leadership, communication, and supervisory skills, and an understanding of some of the challenges facing Indigenous students in academia. At the end of the program, students present their research to the STEM community, friends, family and teachers at a celebration symposium.

To address economic disparities that may hinder participation, we provide **stipends** and **wraparound supports** (transit passes, loaner laptops, meals, youth support workers), as well as **travel bursaries** for students from remote communities.

All program supervisors and host lab members are encouraged to take the British Columbia Institute of Technology's online course on Indigenous Awareness, emphasizing foundational knowledge for reconciliation. We also provide tailored in-person **training on cultural safety** and strategies to support Indigenous high school students in a research environment in partnership with the Indigenous Initiatives team in the UBC Centre for Teaching and Learning Technology.

seed2STEM is guided by an **advisory panel** including former students of the program, parents, a board member of the Verna J. Kirkness Education Foundation, an Indigenous Outreach Worker from Surrey School District, and Indigenous professionals.



Salary + wraparound supports:

\$3,000 / high school student (6 weeks)

\$11,500 / undergraduate (4 months)

All costs are covered by seed2STEM and/or host labs.

1. Statistics Canada. Table 98-10-0416-01 Major field of study (STEM and BHASE, summary) by Indigenous identity: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts. <https://doi.org/10.25318/9810041601-eng>

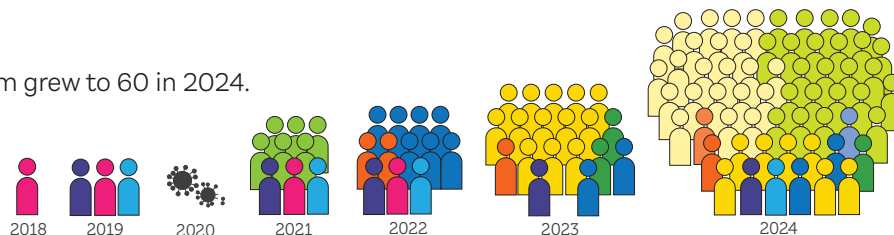
We work closely with **Indigenous support and outreach workers in 10 school districts** in Metro Vancouver and Kelowna, to support students before, during, and after their placements, and incorporate feedback from students and their parents in all the program planning for each following year.

Since 2018, we have successfully engaged 79 Indigenous students in research with 56 faculty members in 32 UBC departments in Vancouver and Kelowna. Many students have expressed increased interest in STEM careers. Of the 17 students who have graduated from Grade 12, **76% have gone on to post-secondary education**, and **77% of those students chose STEM-related fields.**

seed2STEM growth

From one student in 2018, the program grew to 60 in 2024.

In 2024 we had 13 students returning from previous years, and younger siblings of 2 program participants. Six students are now pursuing undergraduate degrees at post-secondary institutions. The program expanded to UBC-Okanagan in 2022. In both 2023 and 2024, participants included 2 students from remote communities.



funding support

seed2STEM is generously supported by:

- ICORD
- Vancouver Coastal Health Research Institute
- BC Centre for Disease Control
- UBC Department of Pathology and Laboratory Medicine
- UBC Department of Radiology
- UBC School of Biomedical Engineering
- Provincial Health Services Authority
- Gynecologic Cancer Initiative
- Stryker
- Private donations (multiple)
- Individual faculty research grants.

Grant funding includes:

- UBC Faculty of Medicine Strategic Investment Fund
- UBC Strategic Equity & Anti-Racism (StEAR) Enhancement Fund
- UBC Indigenous Strategic Initiatives Program

In-kind support

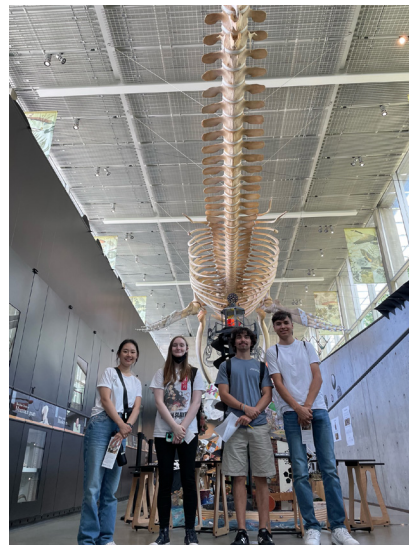
Co-Chair salary support: ICORD / Departments of Radiology and Pathology & Laboratory Medicine. Admin and logistics: ICORD. Lab costs (supervisor time / consumables): host labs.

making a difference for Indigenous youth in STEM

Since its inception, the seed2STEM program has been making a positive impact for Indigenous youth. From developing transferable skills in research, communication, teamwork, and organization, to forming professional and supportive connections with undergraduate and graduate students, postdoctoral fellows, staff and faculty at UBC, participants are gaining valuable experiences through this meaningful program.

seed2STEM fosters a culture of inclusion and respect for Indigenous knowledge, values and perspectives in health and STEM research and education. Program participants are connected to resources such as support services for Indigenous students, academic guidance, career counselling, information about financial assistance, and social and cultural activities.

Results from our most recent end-of-program survey indicated that the overwhelming majority of high school students learned new skills and techniques that they can use in their future studies. They felt included and supported in the labs and developed more interest in STEM fields including clinical research, engineering, and laboratory research. Students also reported increased confidence in their ability to complete tasks independently and work as part of a research team.



empowering Indigenous youth to thrive

The seed2STEM program is growing each year. This is encouraging, and we want to support as many applicants as possible. As the program grows, we are receiving feedback from student participants and supervisors about ways to make the program even more inclusive, supportive, and accessible for Indigenous youth.

Our goal is to empower even more Indigenous youth in the future by offering more travel bursaries for students based in rural communities. We have already seen an increase in interest beyond Vancouver and Kelowna-based students. In both 2023 and 2024 we had two students join the program from remote BC communities and we know there are many more students who would love to take advantage of this introduction into the world of STEM research.

Improving Indigenous participation and leadership in STEM research and education is vital and guided by UBC's Indigenous Strategic Action Plan*. The Truth and Reconciliation Commission of Canada Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples both call for educational reforms to ensure Indigenous peoples are accepted as equals in all fields, including STEM. seed2STEM is working to address these calls for action by directly developing a pipeline that supports, inspires and empowers Indigenous high school students to pursue STEM careers.

Comments by 2023 & 2024 high school students:

"I came from over 1,000 km away and I definitely do not regret it! This is one of my biggest accomplishments. Being a researcher is my long-term goal."

"I liked having access to a lot of knowledge & resources in an environment where I wasn't being graded"

"I used to believe that a job in science was past my abilities, but this program inspired me to think about science as a career."

"I actually really like chemistry"

2024 post-program student feedback:

100%

felt accepted and respected by supervisors, lab mates and staff.

95%

felt included in lab activities and supported when they had questions and problems.

94%

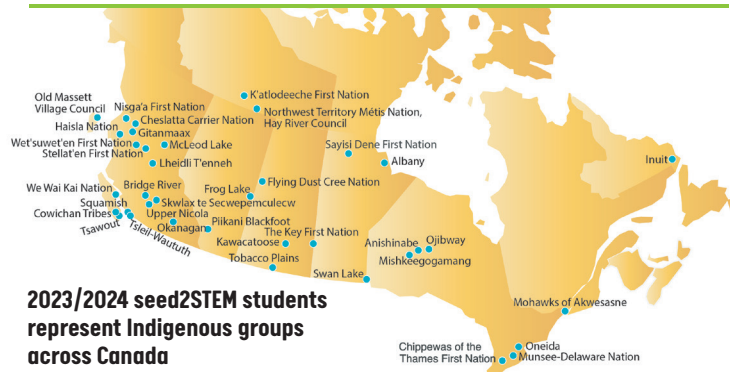
learned new skills & techniques that they could use to achieve their individual goals.

95%

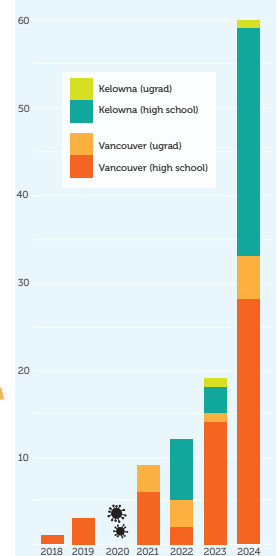
thought seed2STEM was a good use of their time.

98%

plan to return next summer.



Program growth, 2018-2024



learn more:

Visit the seed2STEM web page
<http://icord.org/seed2STEM>



Read a UBC News article about seed2STEM



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