



Engaging Indigenous Students in Cancer Research: A Canadian Case Study

Sarah Ivano¹, Megan Mahoney, PhD¹ and Stéphanie Michaud, PhD¹ ¹BioCanRx

By Mottezen – Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=101606357>

BioCanRx acknowledges that we are situated on the traditional unceded, unsurrendered territory of the Algonquin Anishinaabeg People. We acknowledge and respect our traditional hosts and thank them for allowing us to operate on this land.

I come from Ottawa, Canada, to these lands. I respectfully acknowledge the Wurundjeri Woi-wurrung and Bunurong / Boon Wurrung peoples of the Kulin, who are the Traditional Owners of the land on which we gather and pay respect to their Elders past, present and emerging.

Rates of common cancers have increased among First Nations, Inuit and Métis people in Canada and in some populations, are now at or above the incidence rates in the broader Canadian population.

Approximately 4% of Canadian adults are Indigenous. But only 1.8% of people working in biological sciences are.

Deliberate, tailored approaches to increase Indigenous representation in cancer research is needed to address future needs in this population.



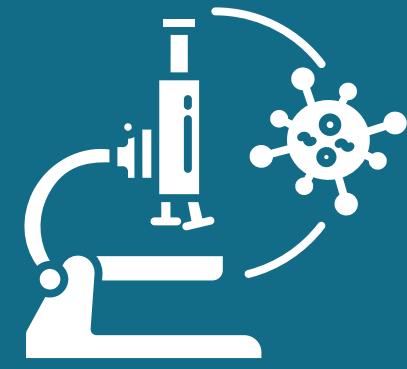
Accelerate to the clinic the most promising cancer immunotherapies designed to save lives and enable a better quality of life.



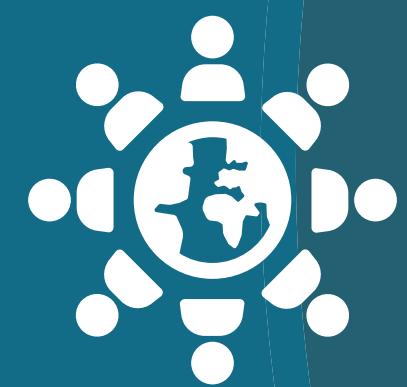
Build a strong and vibrant cancer biotherapeutics community in Canada

Indigenous Student Summer Internship At-a-Glance

Program Goals:



Provide meaningful hands-on cancer research or policy experience;



Promote and strengthen Indigenous students' participation in cancer research, policy and related careers by providing networking, mentorship, and hands-on, practical experience opportunities.

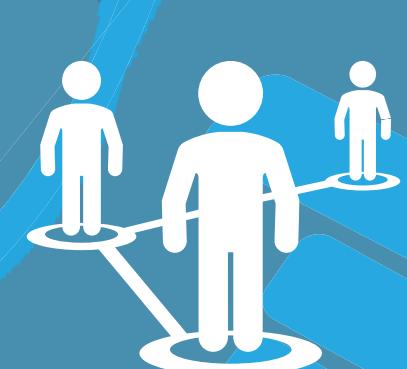
Program Elements:



14-week paid (\$9000 CAD) internship for undergraduate university students



Hands-on experience in cancer research or policy projects



Professional development, networking and community building



Attendance and presentation of work at annual scientific conference

Project Research Areas:



Laboratory-based Research



Indigenous Knowledge



Knowledge Translation



Clinical, Social or Economic Impact

“This Studentship has allowed me to engage in hands-on cancer immunotherapy research. [...] I can confidently say I would have never done [this research] without the help of BioCanRx. This summer has been invaluable, and their continued efforts to improve our understanding of research through various workshops and seminars have been incredible.”



Alexandria McRorie, Summer Student 2022

“The opportunities provided to me through BioCanRx and the Canadian Partnership Against Cancer truly changed the trajectory of my educational and professional career. I have gained countless invaluable skills, connections and the confidence that my life path is more aligned to my goals. The opportunities provided to Indigenous students through this program are life-changing!”



Olivia Craggs, Summer Student 2022

Summer Project Examples

1. Evaluating standard Patient and Family Advisory Committees (PFACs) in Canada through an Indigenous research paradigm
2. Sioux Lookout First Nations Health Authority Cancer Screening Communication Research Project
3. Colonialism and Cancer in Canada: A review of the health risks, metabolic links, and associations in Indigenous populations that contribute to cancer outcomes
4. Developing a novel “armored” CAR T cell therapy for cancer
5. Deciphering and harnessing the roles of tumor-infiltrating B cells in anti-tumor Immunity



Challenges and Successes

Challenges

- No intake in Y1
- Limited funding
- Limited reach

Successes

- Y2 – 5 students!
- Value recognition and relationships established
- New partners onboarded
- Attract both hosting partners and \$\$
- 13 students to date (including this year)
- 5/7 students plan a career in cancer research (lab research, public health & epidemiology)

Keys to Success

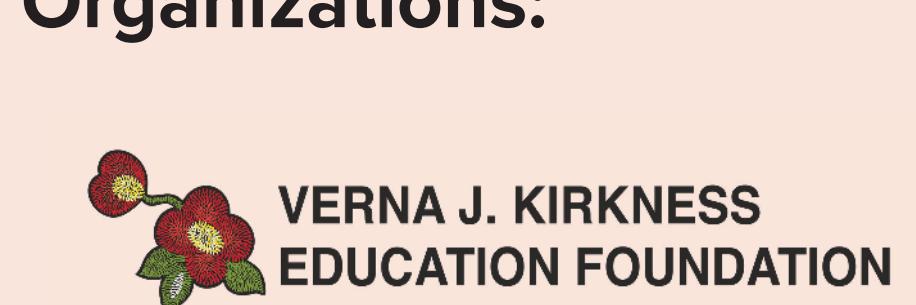
- Include lead time in program launch and design to strengthen and deepen relationship with Indigenous partners
- Engage students in continuous professional development activities & networking
- Critically evaluate any uptake failure with Indigenous Students
- Required Cultural Safety training for supervisors
- Provide additional funding on a case-by-case basis for travel back to home community or vice-versa
- Help establish connections with researchers
- Fully support (travel, accommodations) of undergraduate students to a Scientific Conference to present their work
- Stay in touch, alert them to opportunities, establish trusted connections
- Celebrate their success!

Acknowledgements

- Indigenous Student Working Group: Harold Atkins, MD, FRCPC, Jade Atkins, PhD Candidate, Taylor Rae Jamieson-Datzkiw, MD/ PhD, Aaron Prosper, Joshua Tobias, PhD, Julia Stoneman-Sinclair, Olivia Craggs
- Indigenous Partner Organizations:

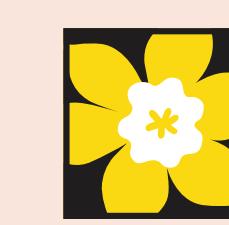


Indspire



VERNA J. KIRKNESS
EDUCATION FOUNDATION

- Host organizations and funding partners:



Canadian
Cancer
Society
Société
canadienne
du cancer



CANADIAN PARTNERSHIP
AGAINST CANCER
PARIÉTARIAT CANADIEN
CONTRE LE CANCER



OICR
Ontario Institute
for Cancer Research
BioCanRx
Canada's Immunotherapy Network
Le réseau canadien d'immunothérapie



Contact Information:

Stephanie Michaud, PhD
President and CEO, BioCanRx
smichaud@biocanrx.com

