

STEM Fellowship

2022/2023 Calgary Spring
Internships Package

ABOUT STEM FELLOWSHIP

STEM Fellowship is a national, student-run, non-profit organization that aims to enrich the paths of students in Science, Technology, Engineering, and Math (STEM) fields through programs, competitions, and workshops. We have our own peer-reviewed **open source journal** through Canadian Science Publishing and are the organizers of **The Big Data Challenge**, a longitudinal, mentorship-based **research competition** in which students analyze big data to discover trends related to socioeconomic or environmental issues in their communities.

Our mission is to use **mentorship** and **experiential learning** to equip the next generation of change-makers in STEM with indispensable skills in **research, data science, inquiry** and **scholarly writing**. The University of Calgary STEM Fellowship branch provides students with **resources to develop skills in scholarly writing and editing** that are not covered in undergraduate classes through **interactive workshops**. We additionally organize **networking events** featuring panels of upper year-student researchers to foster the development of a strong community of like-minded, passionate and innovative students.

THE 2022/2023 INTERSHIPS PROGRAM

Our program offers the opportunity for **high school students** to experience **scientific research** in a University of Calgary laboratory for one **week during the CBE spring break**. Student interns are mentored by **graduate students** and **engaged in cutting edge research** in a specific field. This program allows interns to explore careers in research and develop insight into scientific inquiry through the research process.

This package provides a brief introduction and proposed outline to our program for high schools and community organizations who may be interested in participating. Please visit our program website for a link to the applications and a description of projects of various participating labs: <https://linktr.ee/Ucalgarystemfellowship>.

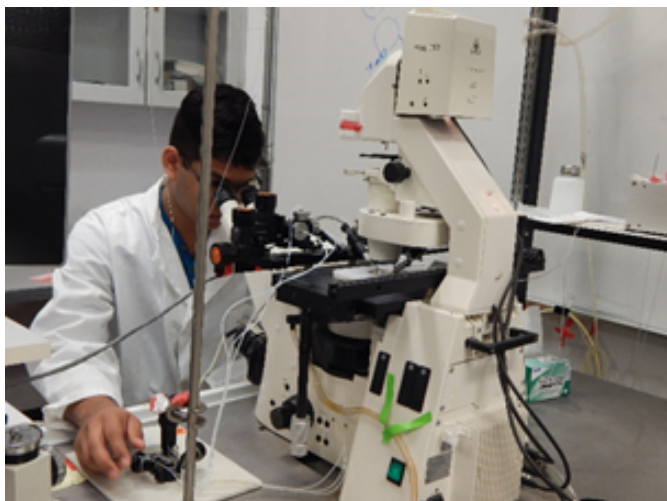
Students will be **matched with a lab from their top three choices** to work with for the week. There will be 1-2 students in each participating lab. The students will have the opportunity to **watch faculty presentations, participate in lab tours, learn various modes of software, observe data collection, have one-on-one time with researchers, and more.** The program will be held **in person** as was the 2022 program. Any decision to host the program online will be in accordance with university guidelines. The program will take place over five days during the CBE spring break (**March 27th – 31st, 2023**).

TARGETING UNDERREPRESENTED POPULATIONS

Part of STEM Fellowship's mission is to work towards **creating more opportunities for youth from underrepresented communities** to be involved in **STEM Fields**. Therefore, our goal is that a **majority of placements will go to low-income and/or indigenous youth, youth from rural areas and refugees.** Our definition of these groups will be through **self-identification** on our application form. STEM Fellowship also runs a STEMpowerment mentorship program for youth from these populations, which is currently pursuing partnerships with local indigenous youth organizations.

PREVIOUS INTERSHIPS

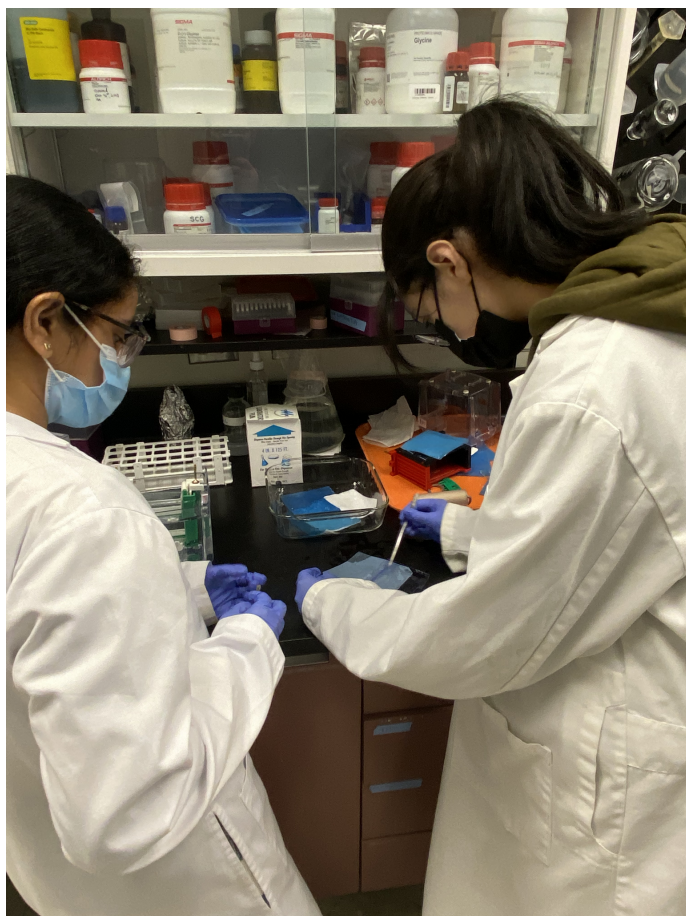
This year marks the sixth time that STEM Fellowship is hosting the Internships Program. In previous years, the program has been a great success, with **over 500 high school applicants in total** and an average of **around 22 students selected** for the program **each year.** Students **conducted research in up to 18 different labs,** exploring areas of **research including biomechanics, climate change, rheology, nanotechnology, brain stimulation, stem cells, bioinformatics, energy innovation, disease prevention, transplant immunology and more.** In addition, students and teachers were invited to a reception to meet their peers and network with accomplished researchers.



STUDENT TESTIMONIALS

"This internship provided me with **valuable insight into the realities of life as a researcher**. I learned about the importance of work outside the lab as I spent the week developing computer models to demonstrate previously acquired data. This experience taught me about just how much of conducting your own research is taking the time to

educate yourself on the recent work of others and **using** their **conclusions to help build and support your own inferences.**"



"I learned the reality of life in research. A lot of the work I did was making models based on the work done by others and altering them to provide more accurate and effective models. I also learned effective ways to analyze and extract data from academic papers, and how to interpret data from multiple sources to produce one model. This internship **gave me a foundation in coding** that will prove **useful in the future** by giving me a basic knowledge of the format and technique used. The knowledge I gained about the inner workings of oil recovery made me a **more informed citizen** and I now feel comfortable participating in educated conversations about effective oil

recovery and can develop a well-rounded opinion on the subject: something vital to an Albertan."

"This program has been **extremely helpful** with **creating connections** with experts in the field of research. It has **given me insight into research careers** and has **presented opportunities for my future.**"

"The STEM Fellowship Internship Program taught me the **importance of perseverance** in the context of science and engineering. It was really cool to see **connections between classroom and reality** and to learn how to use various equipment. I learnt that not only are smarts and research essential to **problem-solving** but **curiosity and creativity** are too."

"The STEM Fellowship Research Internship Program is an **amazing program** that allows students to **explore their interests**. Overall I loved how **inclusive** the program is and how it is **very much collaborative**. I would definitely recommend it to anyone who is interested and would like to be a part of this **amazing internship.**"

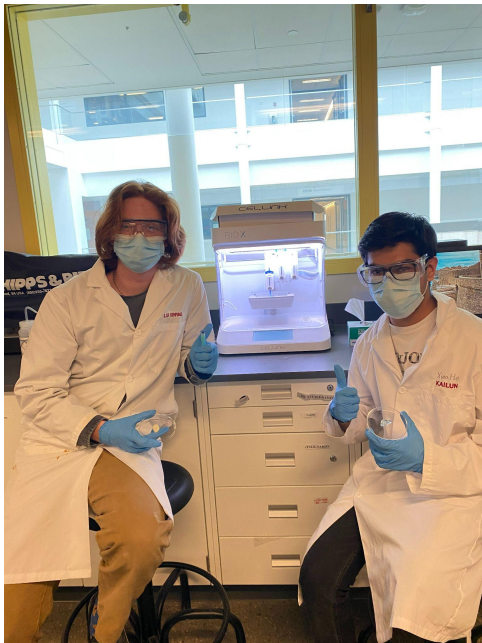
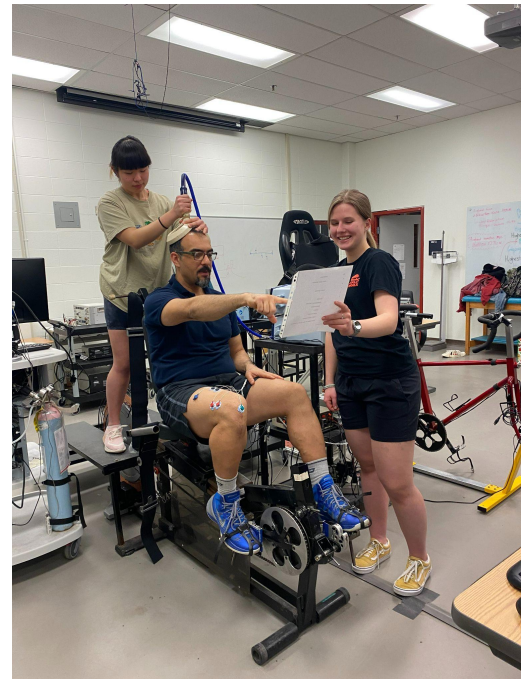


"Before this internship, the idea of scientific research felt very distant when, as an outsider, you only ever get to see the final product. The prospect of a career in research now seems much more tangible because of this opportunity to see what research actually looks like. I **learned something new** from each and **every member of the lab** I had the opportunity to work with and for that, **I'm very thankful for this program.**"

"The University of Calgary's STEM Fellowship is an **excellent opportunity to be a part of real research in a laboratory environment**. This opportunity helped me **develop skills in the lab**, enhanced my understanding of STEM fields, and allowed me to **make connections with peers and faculty** involved with STEM research."

"Being able to **explore my genuine areas of interest** through this program was an **insightful** and **valuable experience**. I really enjoyed **challenging myself** by going beyond classroom learning and **applying my knowledge** to emerging fields of study. **Networking with knowledgeable peers and mentors** was also a highlight. This was truly an **unforgettable opportunity** that I recommend to all students!"

"This program has provided me with **invaluable hands-on experience** in a university lab setting. I loved being able to work with different technologies and to be able to witness first-hand how research is conducted at the university level. I'm grateful for the **mentorship** I received from my graduate student and her **willingness to answer my questions**. I truly enjoyed participating in this program as it allowed me to work in a university lab and be **directly involved in experiments and research**."



"The STEM Fellowship research internship program was an **extraordinary opportunity** to learn about how a professional university research lab functions and is a great opportunity to **gain hands-on experience** in working in a research lab environment. Through my internship week, I had the **amazing opportunity** to meet and work with some incredibly **passionate** and **knowledgeable post-doctoral researchers, professors and students**. Working in the university research lab environment truly **opened my eyes** to the importance of scientific and novel research. My involvement in the STEM Fellowship really **reinforced my interests** in exercise and physiology and gave me the opportunity to **apply my knowledge** from a school

environment to tangible research in a real-life lab, which further **deepened my appreciation for science and research.**"

PROPOSED TIMELINE

November 28th, 2022	<ul style="list-style-type: none">• Applications open at 9:00am – may be accessed through https://linktr.ee/Ucalgarystemfellowship
January 13th, 2023	<ul style="list-style-type: none">• Applications close at 11:59pm – must be submitted through Qualtrics before 11:59pm.• Deadline for Detailed Academic Report (DAR) submission to ucalgaryinternships@stemfellowship.org (11:59pm).• Deadline for Reference Letter submission to ucalgaryinternships@stemfellowship.org (11:59pm).
February	<ul style="list-style-type: none">• Interview shortlisted students.• Send out accepted intern information to selected students.• Pre-internship meetings/tasks (if applicable).
March-April	<ul style="list-style-type: none">• Internships take place over spring break (March 27 – 31, 2023).• Internships reception held on Friday, March 31st, 2023.• Feedback survey sent out to all mentors and students

APPLICATION INFORMATION/REQUIREMENTS

All information regarding applications and application requirements/eligibility may be found in the "Applicant Handbook" on our website:

<https://linktr.ee/Ucalgarystemfellowship> Upon any questions, please feel free to email us at ucalgaryinternship@stemfellowship.org.

THANK YOU

Thank you for taking the time to read our package. We hope that University of Calgary labs/research groups and high school students can both benefit from our initiative. If you have any questions about the program or would like to meet to discuss this endeavour further, please contact the University of Calgary STEM Fellowship branch at stemfellowshipucalgary@gmail.com.

Thank you.

