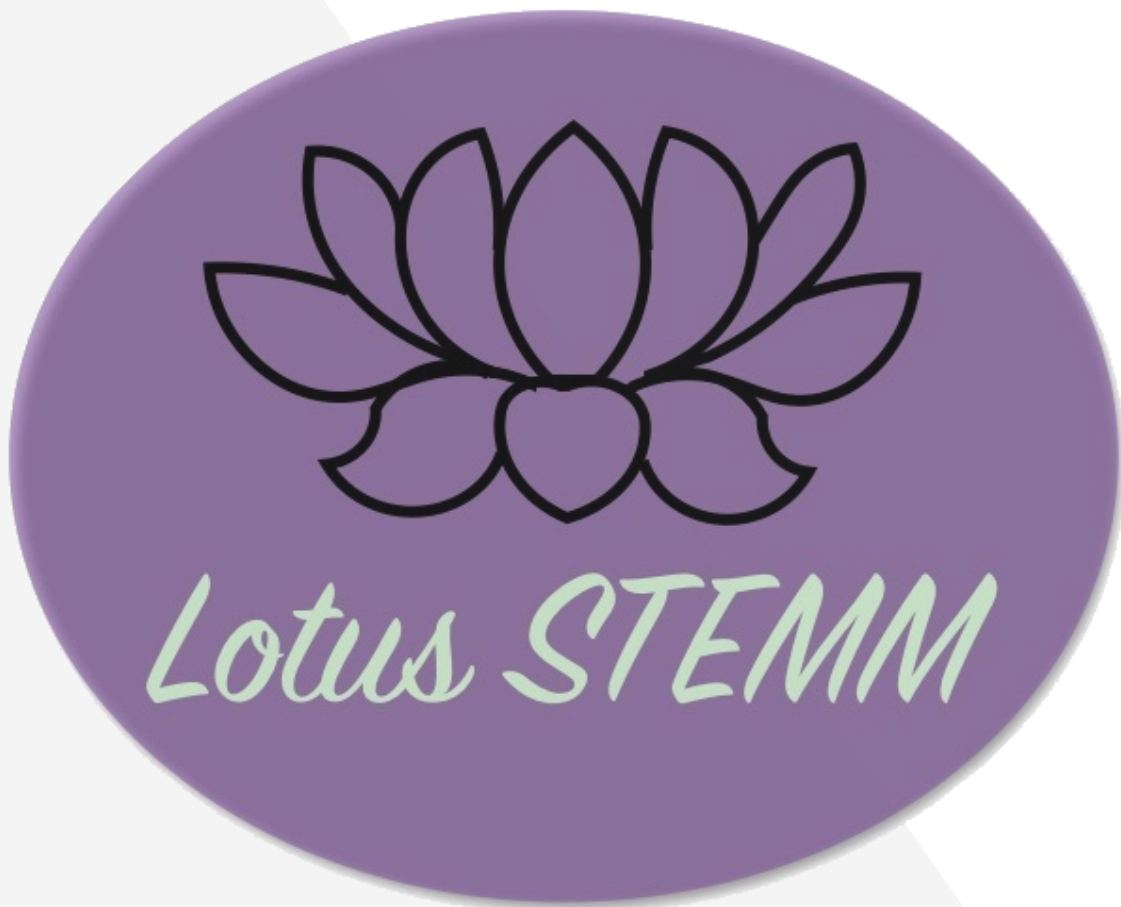


LOTUS STEMM

ANNUAL REPORT

REPORT NO. 022-03



2022

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Land Acknowledgement

Lotus STEMM's hub of operation is located in Peel Region in Canada.

We want to begin by acknowledging the land on which we gather, and on which Lotus STEMM and the Region of Peel operate, is part of the Treaty 19 Lands and Territory of the Mississaugas of the Credit. For thousands of years, Indigenous peoples have inhabited and cared for this land. We acknowledge the First peoples of these lands: the Anishinabe, Attawandaron, and Haudenosaunee, the land that is home to the Métis; and most recently, the territory of the Mississaugas of the Credit First Nation who are direct descendants of the Mississaugas of the Credit. We are grateful to have the opportunity to work on this land, and by doing so, give our respect to its first inhabitants.

I am, alongside my colleagues at Lotus STEMM, a Treaty person; I work on Treaty 19 land, I live on the Between the Lakes Purchase Treaty No. 3 territory, of Erie, Neutral Huron-Wendat, the Haudenosaunee, and Mississaugas. Us being settlers on these lands, we would like to underline the cooperative responsibilities which come with being a Treaty person. We should continue as settlers living on this land with First Nations and Métis communities to help take care of the land, the water, and the environment as a whole in partnership. Educating oneself on treaties, and stewardship of the land as a settler are both vitally important. We are compelled by the spirit of both Truth and Reconciliation to learn about the treaties, histories, and ongoing Indigenous and settler relations.

I am, personally, thinking about the effects of climate change and how late summer's heat lasts every year. This year does feel overall hotter than before. I'm

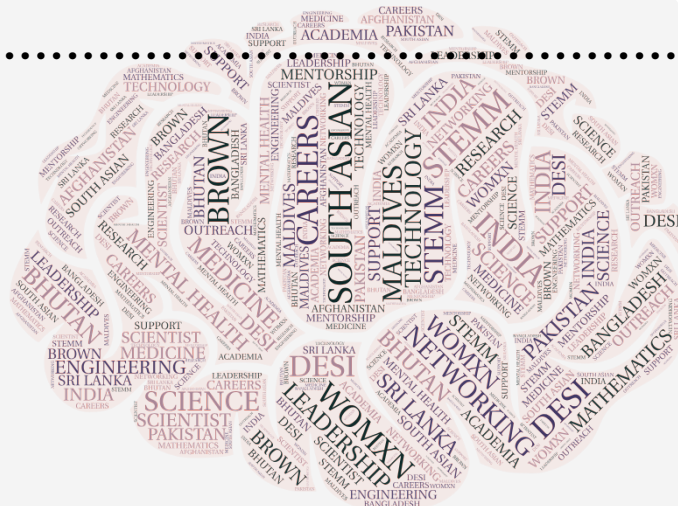


Mr. Arshdeep Singh Phagoora

thinking about how human activities such as resource extraction have led to our current predicament. We also have structures which encourage and incentivize seeing land as a resource, rather than a sustainer of life – further tying our economy to land ownership. So when we think of where we are situated, with our privilege and comfortable lifestyles, we must acknowledge and work to unravel the economic structures which bring about the idea of nature as just a source of resource extraction. I am personally thinking about how capitalism, and settler colonialism, are the continued markers that, as Canadians, we have a long way yet to go for reconciliation to even be conceivable.

In my capacity, I hope to be intentional on the continued partnership and stewardship of the land. Like the Mississaugas and allied nations, who have been and *still do* take care of these lands, we too owe it the same. Please reflect on these realities for yourselves, and consider the interconnected nature of capitalism and settler-colonial violence.

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CEO's statement

When I reflect on 2021-2022, I recognize the challenges Lotus STEMM has faced in the height of the pandemic. But alongside the challenges, I'm so incredibly proud of the team and our accomplishments this year. During the midst of multiple Covid-19 waves and changing recommendations, our team worked diligently navigating virtual sessions, online burnout, and the added pressures put on them at work and home.

I'm proud of the community we have built. This community continues to organically grow with new members joining, engaging, and networking from within the Peel Region, Ontario, Canada, and internationally. This year, our focus has been on partnerships. We have worked hard with our partners to increase science equity (ScienceUpFirst), hear from women on barriers faced by them in STEMM (Sci-Illustrate), and started a research project focused on understanding barriers faced by female identifying international students (Laadliyan).

Science equity is at the forefront, and Lotus STEMM increases it by providing multilingual science to our members. With our partnership with ScienceUpFirst, we provide volunteers an opportunity to increase their confidence in communicating researched science information in their languages. Our work with Sci-Illustrate focused on hearing from women on challenges they face in their careers in STEM. While these challenges have been reported by many in literature, hearing that over 260 women from 36 countries face similar issues shows how much work we still need to do. Laadliyan, a fellow non-profit organization, invited us to partner on a grant to document and create workshops on understanding the experiences of international students when seeking equitable employment. Three powerful and meaningful partnerships!



Roopali Chaudhary, PhD

On a personal note, through the work for Lotus STEMM, I've learnt so much about privilege. Privilege of understanding, critical thinking, challenging and confidence; aspects that are not always encouraged in South Asian women. As we continue to work on our mission, reflecting and recognizing the privilege we all hold is important. Understanding our privilege only helps us understand how to increase equity.

Our mission does not end here. As long as there are gender disparities, inequities, and biases in STEMM, there will be a need for culturally responsive recommendations.

Chair's statement

As we gather for the Annual General Meeting in person for the first time since the pandemic disrupted our lives, I am amazed to see how global an impact Lotus STEMM has truly made this past year.

Several programs have continued to grow and engage the community. I was excited to learn that the mentorship program has reached a milestone of having 100 participants. The dedicated efforts of the mentorship team has resulted in positive reviews by both mentors and mentees and highlights the impact such a program makes on South Asian STEMM women. The continuation of other programs including the Expanding Horizons and Paksh programs highlights the importance of providing these additional resources as frequently as possible.



Bhairavi Shankar, PhD

Lotus STEMM continues to gain the attention of key decision makers within the Canadian research and academic community. Stakeholders recognize the importance of including diverse perspectives in core conversations around inclusion, recognition of pay equity, and most critically international experience. As I pen this final statement as Chair I am confident that Lotus STEMM, with the strength and support of its members, will continue to make strong contributions in the community. I invite you to share and champion on these initiatives.

Treasurer's statement

Good afternoon mentees, mentors, volunteers, collaborators, sponsors, board members, and all other stakeholders. My name is Shaiya, and I have been treasurer and a board member for Lotus STEMM since its inception in 2018. Today, I am pleased to share that we secured a total of \$43,200 over the last year.

I'd like to take this time to especially recognize Science Up First, who, in addition to sponsoring our AGM today, also granted 46% (\$20 000) of our total funding over the last year! Funds from Science Up First were used to pay for a senior project coordinator and honoraria to thank our SciComm Task Force – a group of 12 volunteers who translate scientific social media posts into 6 different South Asian languages! We are thankful for this strong partnership and are happy to report that our contract with Science Up First has been extended until March 2023!

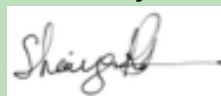
Our next biggest source of funding this year included \$14 520 from Canada Summer Jobs, whose contribution allowed us to pay for 3 research students and 1 fundraising campaign manager for 12 weeks. Thanks to \$3404 from McMaster University, we were able to pay for a website developer to update our website.

We'd also like to thank the National Research Council for providing us with \$5000 to support our Expanded Horizons Workshop.

Other sources of funding this year include donations, speaking engagements, and collaborations with other STEM organizations (Indus Space), totalling \$275.

Now at the end of my second term, my position as a board member and treasurer has come to an end, and I extend a heartfelt welcome our newest members, Yashaswani, Ayesha, Amtoj, and Bhavana! I remember reporting in our first AGM in 2019 that Lotus STEMM was in a minor deficit of roughly -\$270. I can't stress enough how proud I am at how much this organization has grown in such a short time. I acknowledge and thank the vast team of dedicated volunteers who make all our programming possible. I also would like to acknowledge Dr. Roopali Chaudhary who works tirelessly to ensure that South Asian girls and women in the GTA are uplifted, supported, and represented in STEMM. Roopali, I am so very proud of you, and I feel fortunate to have been a small part of Lotus STEMM's journey to success. While I am no longer part of the board in an official capacity, please know that I will continue to support you and Lotus STEMM in the years to come. I can't wait to see what's in store for you next!

Sincerely,



Shaiya Robinson, Ph.D.



Treasurer's statement

Balance Sheet Summary Prepared by: Roopali Chaudhary, PhD using QuickBooks

Lotus STEMM

Balance Sheet Summary

As of March 31, 2022

	TOTAL	
	AS OF MAR. 31, 2022	AS OF MAR. 31, 2021 (PY)
Assets		
Current Assets	3,600.00	
Cash and cash equivalents	13,203.99	59,626.78
Accounts receivable (A/R)	13,899.13	0.00
Total Current Assets	30,703.12	59,626.78
Total Assets	\$30,703.12	\$59,626.78
Liabilities and Equity		
Current Liabilities	21,818.25	55,876.68
Accounts Payable	123.30	323.30
Total Current Liabilities	21,941.55	56,199.98
Equity	8,761.57	3,426.80
Total Liabilities and Equity	\$30,703.12	\$59,626.78

HR Dashboard

September 2021 - September 2022



Lotus STEMM is happy to celebrate volunteers and employees who are now in medical school (3), graduate school (2), and started new jobs (3).

About Lotus STEMM



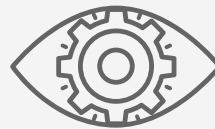
Lotus STEMM is a grassroots federally-registered non-profit organization established in 2018

MISSION



Provide a networking & leadership platform for South Asian women & non-binary folks in STEMM

VISION



Have an intersectional cultural lens for greater representation of South Asian women in STEMM

COMMITMENTS



- (1) Outreach
- (2) Representation
- (3) Research

Programs Offered

1 Outreach

- LS-CAGIS community chapter
- Degrees of Success conference (families, teacher, students)
- Teach me in 5 - Youth Led for Youth (STEM clubs at school)
- Family & I code together workshops

2 Networking

- STEMM Mentorship Program (16+)
- Expanding Horizons Workshops
- Science Translations
- Paksh - A mental health initiative for academics
- The Pond - A discussion group for all things science

3 Research

- 3 social science research projects (women's health, career impacts)
- Develop skills in research and scientific methodology
- Conference presentations

Partnerships

Sci-Illustrate

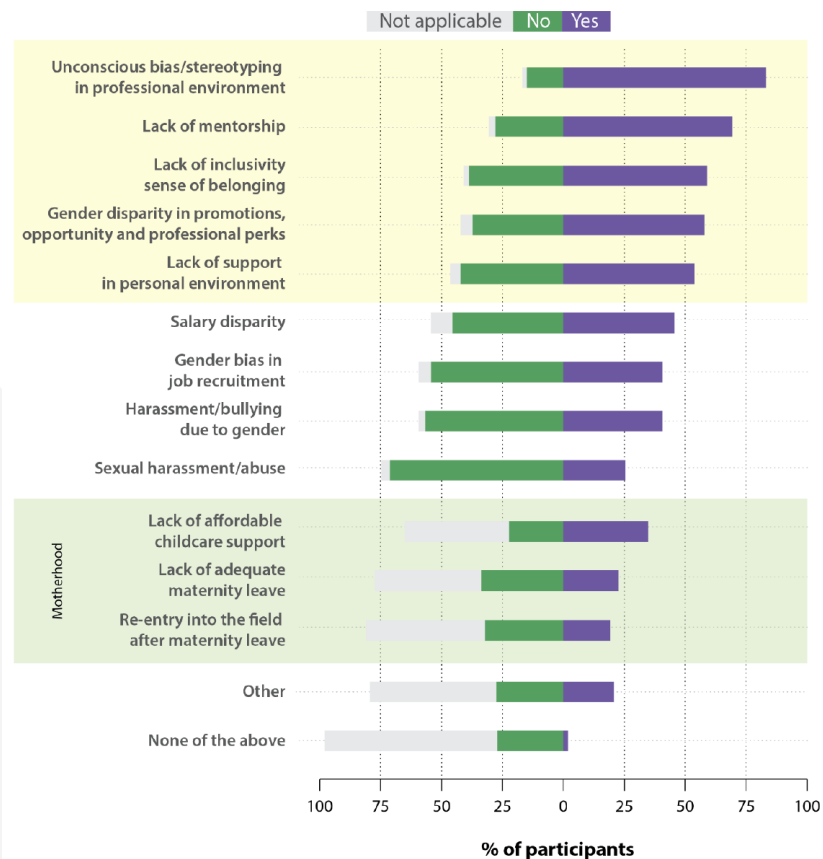
UNESCO Division of Gender Equality - Report

Working with the team at Sci-Illustrate, Dr. Radhika Patnala, Dr. Sumbul Jawed Khan and Dr. Arne Fabritius, Dr. Roopali Chaudhary helped put together a report on a brief snapshot of issues faced by Women in Science with higher degrees for the UNESCO Division of Gender Equality.

Surveying over 260 participants from 36 countries, the 3 largest occupational groups included industry/corporate, postdoctoral fellows and faculty/group leaders. Survey found that the topmost issue reported by participants was "unconscious bias/stereotyping in the professional environment" followed by "lack of mentorship", "lack of inclusivity/sense of belonging", and "gender disparity in promotions, opportunities and professional perks". The fifth most encountered issue was "lack of support in personal environments".

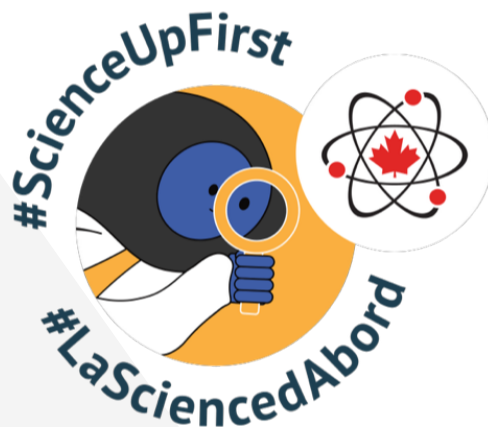
For those participants who are impacted by childcare and/or maternity related issues, "lack of affordable childcare" was the highest rated issue where finding accessible childcare close to work, lack of work timing flexibility and lack of prevalence of part-time jobs in their professions. Professional interruption due to maternity leave was a resounding issue to women scientists not being able to re-enter the profession.

What issues have you faced in your experience, working or studying in science?



Partnerships

ScienceUPFirst Multilingual Science Communication posts



An initiative of CASC / Une initiative de l'ACCS

Lotus STEMM is proud to work in partnership with the team at ScienceUPFirst (SUF) to help translate science communication posts developed by the SUF team into 4-5 South Asian languages.

With English becoming the lingua franca of science, multilingual scientists are losing the ability to communicate science in languages other than English. Cultural and language barriers make access to public science engagement challenging.

Language and culture are intertwined; language familiarity increases trust, and culture plays an important role in health beliefs, behaviours, and patterns of communication. Cultural and linguistic barriers are obstacles to accessible public science engagement and health equity. Science communication in the audience's native language yields greater scientific engagement, motivation, stronger connections to the culturally-relevant scientific concepts, and ultimately improves health equity.

Lead by our Senior Project Coordinator, Sadaf Adnan, international volunteers have helped translate and edit posts developed by SUF into multiple languages, including Hindi, Tamil, Sinhala, Urdu, Farsi and Pashto.

Partnerships

Laadliyan Research Project



Lotus STEMM is proud to partner on a research project with Laadliyan (laad-lee-ah), a community-based non-profit in the Peel region. Laadliyan's mission is empowering and inspiring South Asian girls and women of all ages through education, engagement, and awareness. The project Building Equitable Economies for Immigrants and Refugees is engaging women identifying international students in the Peel region. The aim of the project is to create training modules for local small-midsize employers on how to make workspaces safer and more inclusive for women while ensuring they gain valuable and meaningful experience.

The Tamarack Institute has provided the team support through a grant to help develop the project. The project was started in early July 2022 with the estimated date of completion being April 30th 2023. In past 2 and a half months the team has made great strides towards retrieving the data needed through focus group based research studies. Women identifying South Asian international students were recruited as participants for the focus group study. Interview questions were prepared to ask during the focus groups to aid in leading the conversation. The data obtained from the focus groups will be analyzed to help create a training module. Employers and businesses will also be interviewed to gather further data to implement in the modules.

LS-CAGIS community chapter

Program co-ordinators

Goppikka Natkunam and Faris Khan

Lotus STEMM is proud to partner with the Canadian Association of Girls in Science (CAGIS) to start the first CAGIS chapter for South Asian girls across Canada. We will work on increasing visibility of South Asian scientists and engineers, specifically women and non-binary people, while introducing girls to hands-on STEM activities.

In 2021-2022, LS-CAGIS chapter partnered with CAGIS Mississauga and CAGIS Oakville to work together as a chapter pod during the pandemic. In collaboration, the chapter pod brought 6 events from September 2021 - April 2022.

The LS-CAGIS chapter has been majorly impacted by the pandemic. The online events slowly lost engagement with members, until no members signed up for events. The online event burnout led to the membership within the chapter to diminish to 0. For the remainder of 2022, LS-CAGIS will focus on increasing volunteer engagement before registration for members re-open in early 2023.

Currently, the LS-CAGIS chapter is looking volunteers <https://girlsinscience.ca/>

Parents can sign up their daughters on the <https://girlsinscience.ca/> and choose Lotus STEMM as the chapter.

Target Audience

Target audience: 7-16 yrs old, South Asian girls across Canada.

Number of sessions: ~2 hours/month

Technical requirements: Anyone who has access to a laptop/tablet/personal computer and internet can register for this program.

Instruction Medium: Zoom



LS-CAGIS community chapter

Program co-ordinators Goppikka Natkunam and Faris Khan

Session Summary:

• September:

Event Name: Million Tree Project: Planting a Tree

Event Description: Science Rendezvous has a Million Tree Project that encourages conversations about climate science, the environment, trees, & conservation. In the first half, we discussed the importance of nature & illustrated different ways to preserve it. In the second half, members went outside to their backyard or a local park to plant the seedlings they were sent to show the impact a small action has on the environment.

• October:

Event Name: Halloween Slime!

Event Description: The first half of the event, we discussed the Science of Slime by describing that slime is a polymer & when you mix the ingredients together you are linking the polymers, changing the solution from liquid to solid. After discussing the Science behind slime, the members made Slime at home with a few ingredients & showed off their finished product! This event was a huge but messy hit for our members.

• November:

Event Name: Masters of Disguise

Event Description: Our volunteer, biologist Dr. Heather Mayberry hosted the event where she taught about animals & insects that use camouflage & mimicry to stay safe in the wild! Members had the chance to test their predator skills by picking out M&Ms from a field of Skittles based on some tests.

• January:

Event Name: Fishing Ice or Ice Fishing?

Event Description: Our volunteer Vicki, who is a scientist at the University of Toronto hosted the event. She studies invasive species in the north & other cold environments. She talked about her research with the invasive species that live in the colder temperatures. She hosted an ice fishing activity where the members learned about water chemistry & explored the freezing temperatures of freshwater versus saltwater.

• February:

Event Name: Like Dissolving Like: DIY Lip Balm

Event Description: In the first half, a lecture was delivered on water-loving & water-hating properties of different materials (scientifically known as hydrophilicity and hydrophobicity). The following hands-on activity utilized this information to create homemade lip balms & lip scrubs.

• April:

Event Name: Code Up

Event Description: This event was dedicated to exposing members to basic information & experience with the tech industry. In the first half, we discussed the difference between coding & programming in Computer Science. In the hands-on activity, members walked through creating a simple start-up game on Scratch (a website for learning kid-friendly coding) with guidance from our STEM expert.

Teach Me in 5

Program Leads:
Yashashwani Chauhan and Meshva Desai



Lotus STEMM is pleased to update on our program **for youth by youth**. Workshops are developed and decided by 2 leading young women with an aim to encourage and build confidence in others.

The members liked the program's non-traditional approach to STEM, and the emphasis on self-discovery through the various discussions. They enjoyed the content about the learning curve and how to stay motivated throughout all parts of the learning journey. Another successful module covered scientific scepticism and how to spot bias in scientific research. The participants of Teach Me In 5 enjoyed the sense of community, and felt that it was a safe space for discussions.

Since sessions were held on a weekly basis, we felt that the time in between the sessions was long, and it was difficult to recall things we talked about previously. To help with this, we will design RISE modules that are summaries of the sessions. The pacing within each 1 hour session fluctuated. There were some content-heavy modules (confirmation bias, scientific scepticism) that were too information heavy, and other modules that were too discussion heavy (what makes an idea interesting, self discovery). To help balance the content better, we will try to restructure the topics covered in each module, and ensure we include an appropriate amount of interactive elements (videos, activities, etc.)

This program is funded by Ontario Trillium Fund - Resilient Community Fund.



RESILIENT COMMUNITIES FUND

Mentorship Program

Program Lead: Jovita Pinto

Lotus STEMM's Mentorship Program aims to support South Asian Women wanting to pursue careers in STEMM by pairing them with professional mentors in specific STEMM fields. In addition, the program promotes access to different professional resources like numerous scholarships, resume, cover letter and thesis editing. The program also aims to form a cohesive support system for STEMM career exploration and discussions.

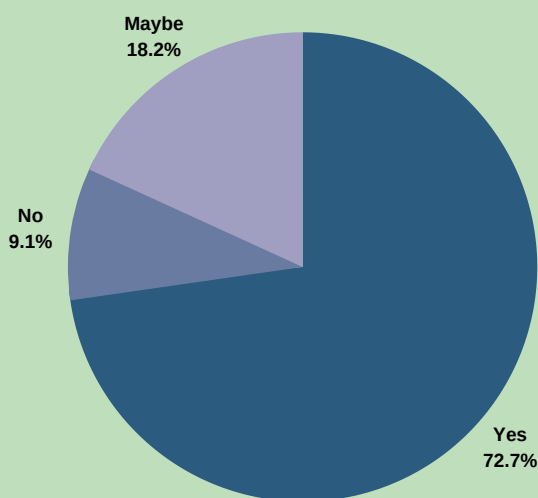
Target audience: South Asian Women, 16 yrs+

Number of cycles: 4

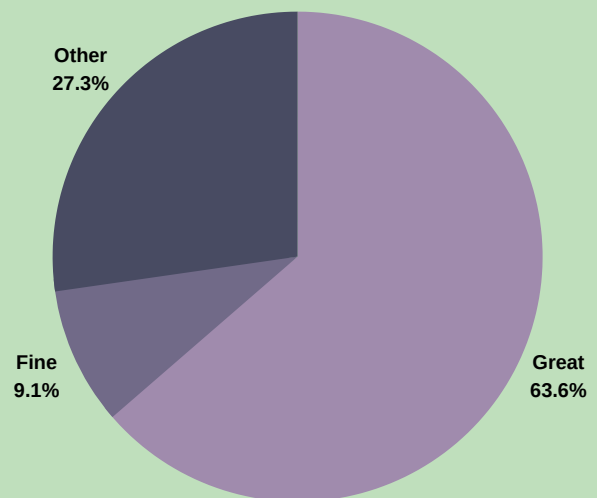
Network: >100 women and girls globally

The mentorship program started in late-January 2020. The mentors and mentees connect on slack for their individual sessions. Furthermore, LS Mentorship Team holds monthly virtual networking sessions for mentors and mentees to meet others in the program. These networking sessions are used to provide us feedback, and also exchange ideas on successful mentorship.

Mentors and mentees learn to create SMART goals for their tenure of 6 months in the program. 3-month and 6-month feedback forms provide us insights into how many mentor-mentee pairs complete their SMART goals.



Retuning Mentees



Mentorship Experience

Program Details



Expanding Horizons

Program Leads: Priya Iyer & Celia Du

While “know your audience” is the golden rule of public engagement, cultural identity and language are often overlooked in science communication (SciComm) practices. With ~20% Canadians speaking a non-French/English language, this workshop series will promote the diversifying of SciComm, while expanding beyond the primary use of English or Eurocentric perspectives. There are few SciComm training programs in Canada, let alone blueprints for multilingual and/or multicultural SciComm. Now, Lotus STEMM is excited to bring you this NSERC-funded project, expanding SciComm and embracing the diverse languages, cultures and ways of knowing.

...this event allowed me to level up myself and the way I present ideas. Through this event, I found that how you say your information is just as important as what you say. For this, I am incredibly grateful.

- Participant testimonial

This program was funded by National Research Council of Canada

National Research Council Canada



Canada's largest federal research and development organization

research projects

THE EXPERIENCES OF FEMALE HEALTHCARE PROFESSIONALS WHO WEAR RELIGIOUS HEAD COVERINGS AFTER QUEBEC'S BILL 21

Project Lead: Suffia Malik

Team: Elias Elaneh and Alador Bereketab

Previous team members: Zahra Abdallah and Tiffany Chen

On June 16, 2019, Bill 21 (An Act respecting the laicity of the State) was passed in Quebec's National Assembly. The bill prohibits professions with "coercive, authoritative power" including teachers, judges, police officers and government employees from wearing religious symbols. These symbols include religious head coverings such as the hijab, turban, and kippah. Interestingly, medical professionals are not prohibited under this bill from wearing religious symbols, despite being in positions of power. In this project, we are interested in **the indirect effects of Quebec's Bill 21 on female physicians and nurses who wear religious head-coverings practicing in Quebec as determined by surveying their experiences of perceived discrimination and the effects on their abilities to practice.** Physicians and nurses were selected because they are professionals who regularly interact with the public and are seen to have decision-making power. The study will consist of online surveys and follow-up semi-structured interviews of female physicians and nurses who wear religious head-coverings practicing in Quebec since at least January 2018. The surveys and interviews will be conducted in both English and French. From this research, we aim to determine the indirect impact of a political environment that targets women who represent religious minority faiths. We aim to determine the bill's effects on the healthcare workplace and women's health in Quebec.

The Policy 21 team is assessing the personal and professional impacts of Quebec's Bill 21 on physician and nurses who wear religious head coverings and practice in Quebec. In July 2022, our project received a **\$1000 grant from the Muslim Medical Association of Canada** through their Research, Education, or Community Service Scholarship. We have also been supported through the Canada Summer Jobs Grant. Since July, we refined our survey and interview protocols and built our online survey interfaces. We are now in the early stages of recruiting participants. We are in contact with several organizations that service Muslim, Sikh, and Jewish communities and have promised to assist in recruitment. The team will be proceeding to social media recruitment in the coming weeks. Afterwards we will be conducting our interviews and collecting data for analysis.

This program was funded by Muslim Medical Association of Canada and Canada Summer Jobs



Government
of Canada

IN THE MEDIA

Lotus STEMM has been featured on a number of conferences and panel discussions.

InOMN

- Observe the Moon Night
- In partnership with Indus Space and CAGIS

Brock University's 3rd Women in STEM event:

- Invited panelist, Roopali Chaudhary, participated in discussion on "Picture a Scientist"

International Women's Day Lightning Talk:

- Invited panelist, Roopali Chaudhary, participated in 5 min lightening talk alongside 8 other women to provide tangible takeaways to help women in STEM lead and thrive

National Research Council of Canada EXCO Meeting and Women in STEM:

- Invited presentation by senior exec team to the NRC on equity and Lotus STEMM works

Build A Dream: Skilled in STEM: Keeping the World Moving:

- Invited panelist, Roopali Chaudhary, participated in discussion about women in STEMM and science equity through multilingual translations

Fraser STEM Women in STEM panel:

- Invited panelist, Roopali Chaudhary and Bhairavi Shankar (Indus Space), participated in discussion about fields

Girls in ICT Summit:

- Speaker at the international summit talking about Advocacy in STEM

Lotus STEMM thanks Partners & Sponsors 2021-2022



Government
of Canada

National Research Council Canada



Canada's largest federal research and development organization

Canada
Summer Jobs

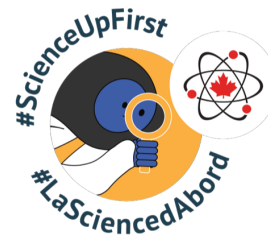
Ontario
Trillium
Foundation



Fondation
Trillium
de l'Ontario

An agency of the Government of Ontario
Un organisme du gouvernement de l'Ontario

RESILIENT COMMUNITIES FUND



An initiative of CASC / Une initiative de l'ACCS



~3785

Social media followers (1738
Twitter, 1055 Instagram, 186
Facebook, 87 YouTube, 719
LinkedIn).