FLi Sci

Strategic Plan 2022-2027

September 2021

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WHO WE ARE

Organizational Description

FLi Sci is a science organization that helps students who will be the first in their families to attend college and/or come from low socioeconomic backgrounds pursue careers in academic research. Currently, FLi Sci aims to support first-gen/low-income (FLi) students through three main programming: the FLi Sci Research Scholars Program; the FLi Sci Allies; FLi Sci Asynchronous Training Courses.

Who We Serve

Our primary beneficiaries are high school students through the U.S. We intentionally chose this group given numerous studies that suggest early exposure is more fruitful in producing long-term benefits. Additionally, given that we aim to equitably recruit students without access to science opportunities, we did not want to restrict applicants based on geography. So FLi Sci aims to have curriculum virtual to maximize our impact.

Mission, Vision and Values

Mission

The mission of FLi Sci is to support the scientific development of students that identify as either first-generation and/or low-income (FLi) by providing opportunities that foster integral skills necessary to pursue science either professionally and/or academically.

Vision

FLi Sci envisions a world where this organization no longer exists because mechanisms to enter science are accessible and equitable to everyone — without regard to one's race, gender, sexuality, and equally important, their socioeconomic status.

Values

Our **GLUE** are the core values that holds FLi Sci together. As an organization whose mission is to remove barriers from entering science, it is fundamental that we embody values that do not add obstacles. It is for this purpose that FLi Sci strives to be as inclusive when it comes to any programming rather than exclusive; we do not aim to support only a subset of FLi students (e.g., academically high-achieving students, students at competitive, well-resourced high schools, etc.). Thus, to ensure that we can forge a world where income is not a prerequisite to entering science, we plan for any staff, ally, or student within FLi Sci to channel the following core values:

Growth

We are not seeking students who are already great scientists, but rather want to become great scientists. We believe that all students are capable of growing into researchers with the right systems of support.

Love of Learning

Above grades and test scores, we value and privilege people who are curious, inquisitive, and passionate to learn more about the world.

Underrepresented

We value students who are historically excluded from opportunities and overlooked — and we want to send a message that FLi Sci is for them: students who were not given an opportunity to engage with science.
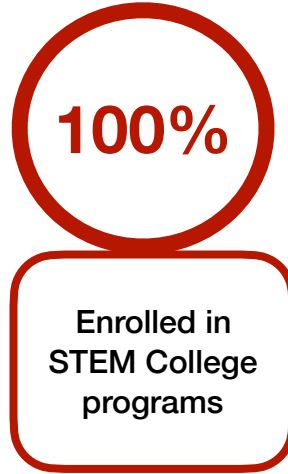
Empowered

We want students to be prideful of their background as FLi students, not ashamed. Therefore, we want to remind students that their potential is driven not by what they CANNOT do, but what they never try to do.

WHAT WE HAVE DONE
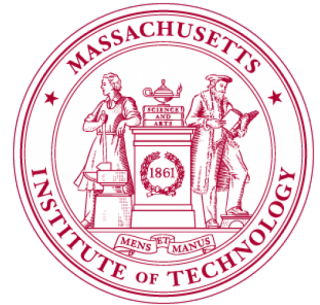
Our Impact

FLi Sci Scholars Program

From September 2020 - December 2020, we piloted our first program: the FLi Sci Scholars Program, a virtual research fellowship for 7 high school students.

7

FLi Sci Scholars selected for the 2020 cohort

100%

Enrolled in STEM College programs

100%

Satisfaction rating from FLi Sci programming

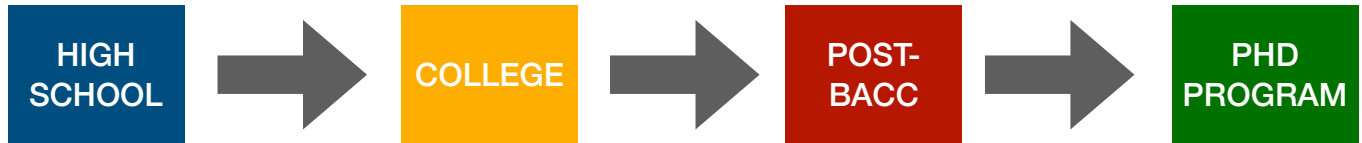**Here are some of the colleges our 2020 FLi Sci Scholars are attending:**

WHERE WE ARE GOING

Goals and Strategies

Goal #1

The first goal is to support 125 students earn admission into science research programs. The diagram below shows the conventional pathway into science:

| HIGH SCHOOL | → | COLLEGE | → | POST-BACC | → | PHD PROGRAM |

We are intentionally targeting high school students to give them early exposure of this pathway with the hopes that it positions them for success in graduating from a Ph.D. program.

Strategy 1.1: Recruit 20 - 40 students each year for a 6-month fellowship program

Every year, we plan to admit students nationally for a virtual fellowship program (with the goal of admitting

Projected FLi Sci Scholars Served
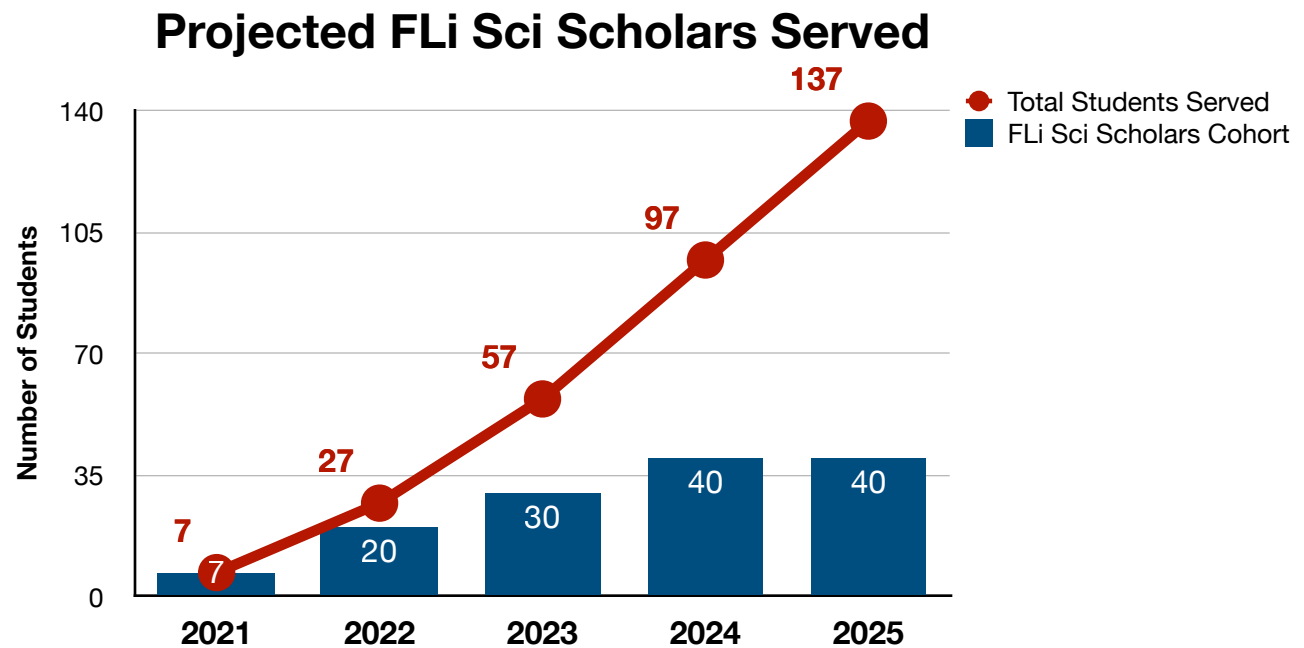
Strategy 1.2: Match FLi Sci Scholars with potential labs to work with while in college

The pathway to science is a long one — one that requires the completion of high school coursework to earn entrance into a rigorous college program, extensive involvement in research activities, and developing meaningful relationship with faculty.

Through curriculum provided through the FLi Sci Scholars Program, we intend to expose students to these pathways and offer strategies to successfully navigate this *before* starting college. One of the ways we will facilitate this through the research fellowship is by training scholars to identify potential labs to work with, draft emails to prospective principal investigators (PIs), and develop a curriculum vitae (CV) that will allow them to work in a lab.

Strategy 1.3: Partner with existing pre-college programs to offer admissions support

Finally, in order for FLi Sci Scholars to be adequately supported in earning admissions at the graduate-level in their respective program, FLi Sci aims to partner with organizations that currently specialize in mentoring FLi students in STEM doctoral programs. A list of potential partners are as follows:

- Cientifico Latino

- MUSE Mentorship

- Next Gen Psych Scholars Program

Goal #2

The second goal to achieve by 2026 is to recruit 100 FLi Sci Allies (20 each year).

Strategy 2.1: Invite science professionals

Throughout FLi Sci programming, we hope to host sessions and invite various faculty from university and research-focused organizations to talks describing their personal journey into science and describe the work they do. This will be accessible to both FLi Sci Scholars and anyone in the general public by registering online. We hope that those invited will sign up — though not required — to join the repository of FLi Sci Allies.

Strategy 2.2: Match FLi Sci Scholars with FLi Sci Allies

Using the info on the FLi Sci Ally database and through invitation, we hope to involve anyone who signs up to serve as mentors for FLi Sci Scholars during their summer research projects.

Starting in the Summer of 2022, FLi Sci Scholars will produce a research paper based on a question they produce and present at the April FLi Sci Scholar Research Symposium. To aid in the generation of a meaningful report, FLi Sci Scholars will be encouraged to identify labs nation-wide that are researching their area of interest, and using this information, we plan to invite members of that lab to serve as research mentors for that summer. In essence, we hope that the students that identify potential mentors are also eager to sign up as FLi Sci Allies.

Goal #3

The final goal we plan to complete by 2026 is to publicly publish asynchronous research-based courses FLi students can access to to acquire integral research skills.

Strategy 3.1: Create research courses and host them directly on FLi Sci's website

Despite a constraint on how many students FLi Sci will be able to formally support via the Research Scholars Program, we hope to mitigate this by providing curriculum content online available to anyone — FLi Sci Scholar or not. The skills will generally be on learning how to program with an emphasis on two research areas: experimental design and data analysis.

Experimental Design: Creating and conducting experiments is a pervasive hallmark of science (especially in the behavioral sciences such as psychology). Therefore, learning how to program these experiments through languages such as JavaScript or Python will be vital. Thankfully, there are two open-source (i.e., free) software that exists — including workshops to train students at introductory level.

Data Science: Data collection is also universally done at the researching sciences — and so, analyzing this data is a universally appreciated skillset. That is why we hope to encourage students to learn how to program and code using the R and Python languages.

Strategy 3.2: Consolidate repository of existing courses as additional support

[insert text here later]

ADDITIONAL INFORMATION

Appendices

A - Action Planning (objectives, responsibilities and time lines)

Objectives for Strategy 1.1	Date of Completion	Responsibility	Status and Date

[insert text here]

B - Frequently Asked Questions

[insert text here]

C - Strategic Analysis Data

[insert text here]

D - Staffing Plans

[insert text here]

E - Operating Budgets

[insert text here]

F - Monitoring and Evaluation of Plan

[insert text here]