

SFY 2022 SciTech Internship Program at the Minnesota Technology Association

Progress Report

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Minnesota Department of Employment and Economic Development
Employment and Training Programs Division

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[mn.gov/deed](https://mn.gov/deed/%22%20%5Co%20%22DEED%20website)

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## Background

The 2021-2022 Minnesota Legislature ( [https://www.revisor.mn.gov/laws/2021/1/Session+Law/Chapter/10](https://www.revisor.mn.gov/laws/2021/1/Session%2BLaw/Chapter/10) ) appropriated $875,000 annually for State Fiscal Years (SFYs) 2021 and 2022 to the Minnesota Technology Association (MnTech) to connect college students in STEM majors (science, technology, engineering, and mathematics) with paid internships in small to mid-sized Minnesota based companies (250 or fewer employees worldwide). The legislation directed the Department of Employment and Economic Development (DEED) to grant funds to MnTech to support **SciTech**, a program of internships in Science, Technology, Engineering, and Math (STEM). In receiving these funds, the program had to work towards increasing the participation of women and other underserved populations in STEM occupations.

The SFY 2022 allocation available to MnTech was $831,250 after DEED retained five percent of the appropriation for administrative purposes.

To be eligible for the internship program, participants must be Minnesota residents or physically attending college in Minnesota, at least 18 years of age, in good academic standing (2.5 or greater GPA), and currently enrolled in a STEM degree program at a two or four-year college. SciTech works with technical and community college students with at least 24 credits completed at the time of application, and college juniors and seniors with at least 60 credits completed at time of application. Up to 15 percent of participants may be graduate students engaged in STEM studies.

Participating companies receive from MnTech a 50 percent reimbursement of the intern’s wages, capped at $2,500 per intern.

## Program Overview

To serve the student participant, MnTech (**SciTech)** uses its allocation to offer:

* An online application form;
* An online searchable job board that is updated daily;
* Personal support for any questions;
* Resources for interviewing tips, resume help, and job search tips;
* Recruitment of companies that offer hands-on internships in STEM fields;
* Screening of business applications to ensure positions meet program criteria;
* Notification of new job postings; and

To serve the business participants, MnTech **(SciTech)** offers:

* An online application;
* Recruitment and prescreening of student applicants to make sure they meet program criteria;
* An online search of intern candidates;
* Personal support for any questions;
* Resources for how to host a quality internship;
* Targeted recruiting of candidates as needed;
* Highlighting new job postings to students each week.

**SciTech** conducts extensive outreach to Minnesota’s STEM students, particularly to women and students of color. In addition to attending dozens of career fairs, **SciTech** engages with more than 20 student groups, prioritizing those that support students underrepresented in STEM fields. **SciTech** also partnered with the North Star STEM Alliance to host three QuikSkills workshops to help students gain the confidence and skills they need to succeed in the job search process. MnTech (**SciTech)** staff have also participated in job fairs and other events with more than twenty student groups including the Society of Women Engineers, National Society of Black Engineers, MSTEM (Minorities in STEM), and AISES (American Indian Scientist and Engineers Society) and has expanded its visibility on social media sites.

## Recruitment Strategies

In detailing its recruitment efforts, MnTech **(SciTech**) uses the following strategies to diversity its intern population. It uses these efforts to increase the involvement of women and members of the BIPOC community:

* Posting information about the program on college job boards statewide.
* Meeting one on one with students at multiple virtual career fairs at colleges around the state, including diversity career fairs.
* Communicating with campus career centers to make sure they know **SciTech** is a resource to students at their respective colleges. We target our outreach here also, reaching out to colleges with greater diversity in their student population such as the Minneapolis Community and Technical College, St. Paul College, Metro State University, and Augsburg University.
* Attending career fairs at Augsburg University, St. Catherine University, Macalester College, University of St. Thomas, St. Olaf, Carleton, Concordia College – Moorhead, St. Mary's University, Dunwoody, Minneapolis Community & Technical College, St. Paul College, Normandale Community College, Inver Hills CC, Anoka Ramsey CC, Central Lakes College, Metro State University, Mankato State University, St. Cloud State University, Winona State, Moorhead State, University of North Dakota (large population of Minnesota residents), University of Minnesota – Crookston, Duluth, Rochester and Twin Cities.
* Targeted outreach to STEM student groups, with particular emphasis on students underrepresented in STEM. This includes groups such as the Society of Women Engineers, Society of Hispanic Professional Engineers, National Society of Black Engineers, the Society of Asian Scientists and Engineers, and many others.
* Outreach to these student groups includes both financial sponsorship as well as presentations to group members about **SciTech.**
* We partner every year with the Louis Stokes North Star STEM Alliance (LSNSSA) to promote **SciTech** to students of color who attend 15 different alliance colleges including the University of Minnesota, private colleges, two-year schools and tribal colleges. LSNSSA is working to double the number of students of color graduating with a STEM degree every five years. We attend LSNSSA events several times a year to promote **SciTech.**
* In fall 2020 and winter 2021, **SciTech** conducted four job search workshops to recruit LSNSSA member students and provide job search training. Topics included how to create an elevator pitch, how to answer interview questions using the STAR method, how to research companies before applying to a job and before an interview, and tips on creating resumes and using LinkedIn. These workshops were recorded and shared with SciTech students via links in our weekly New Jobs emails.
* **SciTech** recruits’ employers to post internship opportunities on the SciTechMN.org job board. Each week, emails are sent out to all students in the program listing the new jobs posted that week. The email also includes links to job search articles and blog posts on what other students have done to find an internship. We also provided links to workshop recordings and short videos that walk students through different aspects of the job search process. We respond to students’ questions one on one through phone calls and emails. We also offered virtual office hours but students.
* **SciTech** also held two employer webinars focused on diversity, equity and inclusion. The events featured DEI professionals who provided information and resources on how to create get beyond barriers and move forward with DEI and how to create a culture of belonging at their companies. Recordings were shared with all SciTech employers.

While **SciTech** recruiting is dependent on the STEM pipeline of women and students of color entering the college systems in Minnesota, our recruiting of BIPOC students outperforms the current higher education pipeline.

## Characteristics of Student Applicants (2022)

### Total Number of Applicants: 1545 (61 percent from underrepresented populations in STEM)

### Gender of Applicants

Male: 69%

Female: 30%

Non-Binary: 1%

### Ethnicity:

BIPOC: 47%

White: 53%

### Permanent Address:

Suburbs: 42%

Greater MN: 33%

Mpls/St. Paul: 23%

Out of State: 12%

### College

Univ of MN: 40%

MN State: 34%

Private: 16%

Out of State: 9%

Other: 1%

## Characteristics of Interns Placed (2022)

### Total Number of Interns Placed: 254

### Gender of Interns Placed:

Male: 74%

Female 26%

Non-Binary: 1%

### Ethnicity:

BIPOC: 33%

White: 67%

### Permanent Address

Suburbs: 36%

Greater MN: 31%

Mpls/St.Paul: 22%

Out of State: 11%

### College

Univ of MN: 46%

MN State: 26%

Private: 16%

Out of State:12%

Other: 1%

Parameters of success of the program interns included:

* 79% of the program interns stayed in Minnesota after graduating for at least 2 years
* 97% of the program interns stayed in the STEM fields after graduating for at least 2 years
* 47% of the program interns were either women and/or persons of color
* 31 interns were hired either full-time or part-time by their employers
* 38 interns had open end dates
* 98% of the participants completed their internship
* $19.36/hour was the median wage paid by employers during the internship
* The Return on Investment is $2.83 of private money for every $1 of state dollars.

## Characteristics of the Hiring Employers

### Total Number of Participating Employers: 271

### Geographic Location of Employers

Suburbs: 46%

Greater MN: 19%

Mpls/St.Paul: 35%

### Hiring by Industry

 Biotechnology and Life Sciences 29%

 IT/Computer Technology 22%

Mining, Materials, Mfg & Processing 21%

Engineering Services 16%

Aerospace and Defense 7%

Agriculture, Food and Forestry 3%

Fuels, Energy, and Energy Mgmt 2%

### Hiring by Corporate Size

 1-10 FTEs 26%

 11-50 FTEs 43%

 51-100 FTEs 16%

101-200 FTEs 1 4%

201-250 FTEs 2%

Average Size: 18 FTEs

## Expenditure Data

Dates Referenced: 9/1/2021 – 11/30/22

| Budget Category | Budget | Expenditures |
| --- | --- | --- |
| Administration | $28,000 | $27,330 |
| Internship Work Experience | $549,000 | $549,000 |
| Direct Services Project Staff | $237,660 | $147,189 |
| Transportation/Travel | $4,000 | $3,257 |
| Contract/Consulting | $12,590 | $12,590 |
| Other Activities | $0 | $0 |
| Total | $831,250 | $739,660 |

## SciTech Success Stories

### Interns Help Medtech Startup Grow Organs for Transplant Waitlist

The team at Miromatrix is on a mission to elimInate the organ transplant waiting list by bioengineering transplantable human livers and kidneys. The simplified version of their remarkable process involves removing the animal cells from a pig organ and then replacing them with human cells. Once the original cells are flushed out, the tissue structure remains and new, compatible human cells can take their place. The bioengineered organs are then cultured in a bioreactor for 2-4 weeks, at which point the organs are ready to test or implant. Miromatrix’ process is an efficient way to address the unmet need of thousands of patients across the country who need a transplant. The company is currently working to advance their bioengineered organs to clinical trials. This was Miromatrix’s first year hiring interns through SciTech. “It’s really great for us, just having one portal where we can get so many wonderful applicants. It’s a nice way to connect with local students,” agreed Emily Beck, Senior Manager of Kidney R&D. This past summer, they hired Aubrey Chavarria, Kathryn Jans and Christian Labrador. Chavarria, a biochemistry and health science major at Hamline University, came across the opportunity on SciTech and was intrigued by the regenerative process. With her father on a waitlist for a kidney transplant, she felt particularly close to the cause. As an R&D intern, Chavarria worked with the analytical team, testing cell functions, going over data and sometimes working in the lab gathering samples. Jans is studying biomedical engineering at the University of Minnesota and put her skills to use working with the cell development team. Using stains and markers, she studied and characterized different cell types, taking and developing the photos herself using the company’s fluorescent microscope in the dark room.

### Solution Builders

I found SciTech in the spring, and within a month I was able to get an interview for a position and was hired soon after that.” — Clifton Robinson, Solution Builders Intern

We get a lot of great applicants from SciTech,” says Tim Wente, Solution Builders, above right. “Now four of the interns we hired are still working here today.” That list includes Wente who started at Solutions Builders as a Network Administration Technician through SciTech in 2017

### Anatomoic

SciTech has been our best source for finding quality talent. As a start-up, every team memberr is critical. The program paired us with motivated students, and allowed us to train and assess whether they were a match for a long-term position with the company. We plan to send full time job offers to our latest two interns.” — Vincent Truong, Anatomic Inc.

### Hed Cycling

As a graduate of two SciTech internships myself, I have had an extremely positive experience...it was great to directly reach out to employers because it cuts through the computerized sorting that is often found in large companies. On the other side of the table now at Hed Cycling, I appreciate the same aspects of the program more so. It was considerably easier to interview candidates given they had expressed genuine interest by reaching out to us, and the process was extremely streamlined. We had an amazing summer intern this year.” — Sam Somrock, Hed Cycling

### Third Wave System

“It’s been a huge confidence boost for me to have this internship,” Gahnz affirmed. “It’s given me perspective into what engineers actually do and to hear that I’m contributing to that is cool.” In retrospect, Gahnz was very grateful for the experience, she said, “It’s the most fun job I’ve had. I don’t really feel like I’m working. And everyone I’ve met has been so incredibly nice. I’ve really loved this experience and continue to love it. I’m really excited to work for Third Wave and learn all I can.” — Karlyn Gahnz, Third Wave System

### Software for Good

“If you had told me I would come out of this being able to write top level code and really see it created, I would have said ‘no way. This internship has really proven to me that I can do it.” — Chi Asangwe (he) Software for Good

### INOVIQ, Inc

“This is a great program to help educate a strong, well-educated workforce for Minnesota’s biotech industry. If students have an opportunity to work with companies and companies can hire and retain quality employees, then the biotech industry can stay and grow in MN, instead of moving to the east or west coast.” — Susan Belzer, INOVIQ, Inc.