

SciTechsperience Internship Program Final Report 2013

Minnesota High Tech Association Becky Siekmeier | 10/22/2013

"This program was essential for my success in my internship with TruNorth Solar. True to its founding, it helped a small Minnesota company employ an intern, which led to my greater understanding of the alternative energy industry. I am so thankful to SciTech for the help in growing personally and professionally!"

— Cody Luebeck, University of St. Thomas



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SUMMARY

Minnesota is going to need 188,000 skilled workers in science, technology, engineering and math (STEM) by 2018 in order to keep up with retiring baby boomers and new technologies. Our state must compete with other states and countries to attract and retain not only STEM workers, but also high tech companies and the economic growth and high-quality jobs they provide.

SciTechsperience is a paid internship program that connects college students studying STEM disciplines with small, for-profit companies in Minnesota. Qualified hiring companies receive a dollar for dollar matching stipend for 50% of the intern's wages. The match is capped at \$2,500.

BACKGROUND

SciTechsperience was an outcome of the Minnesota Science and Technology Authority's (MnSTA) 2011 strategic plan. The Legislature established MnSTA to develop and implement a statewide technology-based economic development plan led by industry and academia in partnership with government.

Based on the Minnesota Science and Technology Authority's strategic plan, a Request for Proposals was created for SciTechsperience. It listed several goals for the program:

- Build a competitive STEM workforce by retaining talented STEM students in Minnesota.
- Provide a paid work experience for students in their field of study, which, when used in conjunction with a college degree, will help them gain full-time employment in a STEM field.
- Assist small for-profit companies with research and development efforts and employee recruitment.
- Attract new and retain existing high tech companies.
- Place a significant number of participating students in gainful employment following graduation with a Minnesota for-profit company.²

RESULTS

In late 2011, the Minnesota High Tech Association (MHTA) was awarded a \$150,000, one-time MnSTA grant to build the SciTechsperience pilot with enough matching funds to support 40 internships. MHTA built the program from scratch using similar internship programs in Ohio³ and Nebraska⁴ as a model and launched the program in February 2012. SciTechsperience had such a favorable early response from students and companies that MnSTA added additional funding for 20 more internships, bringing the new total to 60. Ten internships were reserved for companies in Greater Minnesota. All 60 funded spots were filled by mid-May, and seven additional students were placed in companies without the matching stipend incentive. Fourteen of the 67 hires were in Greater Minnesota.

A one-year follow-up survey of 2012 program participants was conducted in May 2013. MHTA received updates on 54 of the 67 interns placed in the first year of the program, and learned that eighty-one percent of respondents were currently working in their field of study: 45% were working full-time, 10% were part time,

¹ Minnesota's K-12 STEM Ed Report Card 2011; Jobs & Economic Prosperity Through STEM Education by The Alliance for Science & Technology Research in America (ASTRA), p.1

² MN Science and Technology Internship Program "SciTechsperience" State Fiscal Year 2012 Request for Proposals, p.3

³ Ohio's STEM internship program placed 692 interns at 167 companies in FY12 receiving \$2.6 million in state funding.

⁴ Nebraska's internship program is funded at \$1.5 million annually matching 264 students so far with STEM companies.

and 45% were working in another internship. Thirty percent were still working at the company where they did their 2012 internship in either a full-time, part-time, or internship capacity.

Ninety-three percent of the students working in their field said their 2012 internship was instrumental in helping them get the job they have now. In addition, MHTA learned that the top three benefits of their 2012 internship were getting hands-on experience with industry tools and processes (88%), being able to see how their education could be applied to real-world challenges (69%), and learning about professional work culture/etiquette (67%). It was clear from this survey, as well as through site visits to hiring companies, that the SciTechsperience program is having a positive impact on developing Minnesota's STEM workforce and preparing students for the working world.

The legislature did not to fund the Minnesota Science and Technology Authority in the 2012 session, and MnSTA was dissolved. Prior to dissolving, MnSTA committed its remaining 2011 appropriation (\$30,000) to MHTA for twelve SciTechsperience internships in 2013. MHTA then raised the remaining funding needed to continue the program.

MHTA secured enough funding over a period of nine months through one-time corporate donations and foundation grants to support 53 funded internships for the 2013 program. Besides MnSTA, funding was provided by the Otto Bremer Foundation, Thomson Reuters, the Pentair Foundation, CompTIA, Great River Energy, the Hubbard Broadcasting Foundation, and the MHTA Foundation.

The 53 internships were filled by mid-April, with four additional students placed in companies without the matching stipend incentive for a total of 57 placements. Seventeen of the 57 students were hired by companies in Greater Minnesota.

The number of student applicants in 2013 reached 250. They came from communities across the state and represented a broad range of STEM fields from two- and four-year colleges and universities in Minnesota and beyond. The pool of students also represented some of Minnesota's brightest talent, with an average GPA of 3.3.

of Students	# Student Applicants	# Students Hired
Minneapolis and St. Paul	51	14
Suburbs	110	20
Greater Minnesota	68	23
Out of State (attend school in MN)	21	0
Total	250	57

Applicants by College/University System	# Student Applicants	# Students Hired
University of Minnesota	127	27
MN State Colleges & Universities	64	16
Private Colleges	23	3
Out of State Colleges (residents of MN)	34	10
For-profit Colleges	2	1
Total	250	57

While MHTA was pleased with the number of applicants in 2013, it will continue to work on the distribution of applicants to more broadly represent Minnesota's higher education systems. MHTA will also continue to look for ways to increase the number of students from underrepresented groups in STEM, namely women and students of color, who participate in the program.

Applicants by Gender	# and % of	# and % of
and Race*	Student Applicants*	Students Hired*
Male	189 77%	42 76%
Female	56 23%	13 24%
White	162 70%	42 75%
Non-White	64 27%	12 21%
Multi-racial	7 3%	2 4%

^{*}Not all students responded to these demographic questions on the application. Gender: n=245, Race n=233

Fifty-eight companies applied to the program from the following industries:

Industry	# Companies	# Openings	# Interns Hired
Biotechnology and Life Sciences	15	35	15
IT/Computer Technology	19	46	15
Mining, Materials, Manufacturing and Processing	9	28	10
Fuels, Energy and Energy Management	8	20	10
Aerospace and Defense	4	5	4
Agriculture, Food and Forestry	3	4	3
Total	58	138	57

Companies listed 138 internship openings. Hiring managers were given profiles of the students enrolled in the program and given full control on hiring decisions. Matching stipends were given on a first come, first hired basis to companies with fewer than 100 employees. The average number of employees per qualified company applicant was 24. The median was 17.

Geographic Location of Companies	# Companies Applicants	# Openings	# Students Hired
Minneapolis/St. Paul	17	48	17
Suburbs	28	53	23
Greater Minnesota	13	37	17
Total	58	138	57

Greater Minnesota companies in Alexandria, Bemidji, Duluth, Isanti, Northfield, Pine River, Saint Cloud, and Willmar hired 17 of the 57 interns. Sixty-seven percent of the internships were full-time positions, with the remaining 33% of interns hired for part-time work. The average wage was \$14.14 per hour.

QUOTES FROM PARTICIPANTS

The success of SciTechsperience is evident in the quality of the internship experience as expressed by program participants. Below are excerpts from the program survey administered to the 58 company applicants in August 2013:

"While the program offers some relief in the salaries of interns, the most impressive thing to me is how bright, energetic, and willing to learn and help these young people are. To me this is such an obvious win for the state of Minnesota that the only direction should be increased support."

Dr. Roger Pearson, Aspen Research Corporation, Maple Grove

"This is a great program that helps us identify and source strong technical candidates with little risk for the organization. The quality of the candidates was strong, the process painless."

Tom Tack, Clinical Healthcare, Minneapolis

"We have been very pleased with the SciTechsperience program! Our intern is a local student and he has been able to do some real programming for our products! He is continuing on a part-time basis throughout the upcoming school year. Thank you!!!!"

Terese Vander Eyk, riteSOFT, St. Cloud

"The SciTechsperience Internship Program made it possible for us to hire someone that was well matched to our needs as a company and we feel very fortunate to have taken part in the program." Henry Rodman, Contour Innovations, Minneapolis

Students hired through SciTechsperience expressed their appreciation for their internship experiences in an August 2013 survey as well:

"I was very fortunate to find and be accepted for a SciTechsperience Internship. It gave me the chance to return to the beautiful state of Minnesota for the summer while building my research abilities." Angela Savela, junior at the University of Notre Dame (Grand Rapids resident), Electrical Engineering major; intern at Hunt Utilities Group in Pine River

"I am very excited with the company that I currently work with and even grateful for being a member of SciTechsperience. I wouldn't have had the opportunity to get into a remarkable company without the help of SciTechsperience."

Therence Chi, junior at the University of Minnesota – Duluth, Electrical Engineering major; intern at GeaCom in Duluth

"My internship through the SciTechsperience Program has been like a dream come true. Without this program I would have been letting my education go to waste. Unpaid internships are not an option for me. The cost of living is too high for me to earn less than a livable wage. The SciTechsperience Internship Program made it possible for me to accept a position from a small tech-based company that has given me invaluable experience and enhanced several of the skill sets I need to succeed. Thank you SciTechsperience!!!"

Patrick Clifford, senior at the University of Minnesota – Twin Cities,

Environmental Sciences, Policy, and Management major; intern at Contour Innovations in Minneapolis

GOING FORWARD

In 2013, the state legislature made an appropriation for SciTechsperience that made a substantial increase in funding for the 2014-2015 biennium. The \$850,000 appropriation will allow MHTA to support a minimum of 100 internships in 2014 and 125 in 2015. The legislation increased the size limit for companies to 150 employees in the metro area and 250 employees in greater Minnesota. The appropriation also included much-needed funding to improve the program's infrastructure to handle the increased volume of applicants and make the search process for students and companies more efficient.

In addition to the overall increased placement goals in the 2013 legislation, MHTA is working in improve the number of women and students of color who apply for the program and are hired through it. MHTA is reaching out to partners in higher education, including groups such as the North Star STEM Alliance, career counselors and student groups to support this effort. MHTA is also working to keep improving program participation with students and companies in Greater Minnesota by partnering with the Department of Employment and Economic Development, Chamber of Commerce, Iron Range Resource and Rehabilitation Board, industry associations, networking through current companies involved with the program, and others.

MHTA is excited to see the program grow and remains committed to building Minnesota's STEM workforce pipeline and supporting small science and technology companies.

LINKS

The links below provide additional insight on the experience of students and companies during the 2013 program year.

- http://www.mhta.org/two-scitechsperience-women-answer-the-call-to-it/
- http://www.mhta.org/scitech-intern-helps-develop-worlds-first-micro-lab/
- http://www.mhta.org/scitech-intern-brings-new-energy-to-solar-firm/
- http://www.mhta.org/legislators-see-scitech-interns-in-action/
- http://pineandlakes.com/echo-news/2013-09-03/legislators-visit-hug-rreal-and-scitechsperience-internship-program
- https://www.youtube.com/watch?v=jxGimk Zf 4&feature=youtube gdata player
- http://www.mhta.org/legislator-visits-scitechsperience-program-at-anez-consulting/