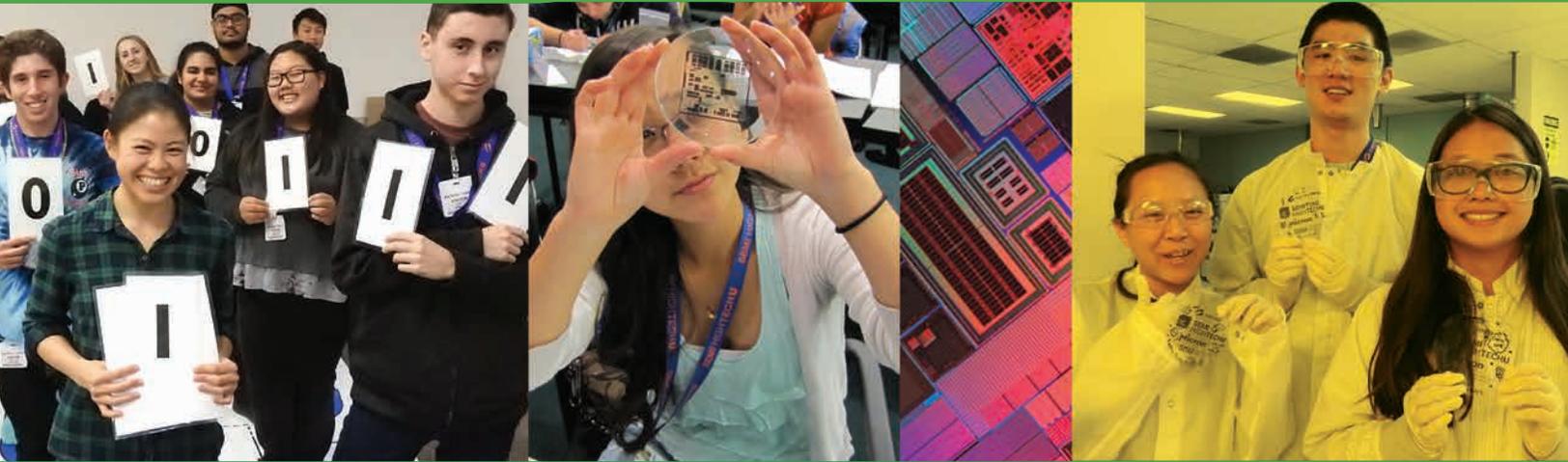


SEMI  
FOUNDATION

# SEMI HIGH TECH U—OUR IMPACT





## SEMI HIGH TECH U—OUR IMPACT

### ABOUT THE SEMI FOUNDATION AND HIGH TECH U

The SEMI Foundation is a 501(c)(3) nonprofit charitable organization founded in 2001 to support education and career awareness in the electronics and high-tech fields through career exploration programs and scholarships. SEMI High Tech U provides high school students with an industry-led introduction to the high tech industry. The program consists of a three-day, “hands-on” science, technology, engineering and math (STEM) based curricula and interactive professional skills development program. Students come away with valuable knowledge about potential career paths and education requirements to meet their goals.

To date, the SEMI Foundation has conducted more than 255 SEMI High Tech U programs for both students and teachers with a combined impact on more than 350,000 individuals. This report focuses on the significant student impact achieved through delivery of the SEMI High Tech U program.

### Introduction

**The SEMI Foundation is changing more lives** since its inception in 2001. The key to success is our industry driven model. We know or impact by maintaining connection with the students and teachers who have participated in SEMI High Tech U (HTU).

**Our programs impact students.** After attending an HTU program, students understand the education and career pathways that will lead them to high-tech fields, allowing them to make informed education and career choices. The SEMI Foundation commits to helping high-school students gain a better understanding of how science, technology, engineering and mathematics (STEM) are used to solve “real-world” problems. This realization fosters a renewed commitment to explore a future in high-tech industries.

The SEMI Foundation conducted its third major retrospective survey of HTU alumni in 2018. The 255 who responded present a meaningful picture of a significant impact on student’s education and career pathways in STEM.

### ***255 HTU alumni give a positive picture of significant impact.***

Approximately 21% of our alumni who completed the program between four and eight years ago in the United States responded to our survey. They were able to look back and evaluate the impact HTU has had on their education and career.

### Methodology

The survey population was HTU participants in programs during 2010–2014. They had completed HTU between four and eight years ago. There were 1196 student participants we could contact in that time frame. **255 completed the 2018 survey.** They were contacted primarily by phone survey (867, or about 69%) or attempted to reach by text or by email (if phone was not responsive or disconnected) and asked to complete an online survey of the same questions.

### ***2018 survey response rate = 21.3% (of 1196 surveyed)***

STEM education is a sequence of courses or a program that prepares students for successful employment and/or post-secondary education that requires different and more technically sophisticated skills and competencies including the application of mathematics and science skills and concepts. The National Science Foundation (NSF) has developed a widely used set of Science and Engineering (STEM) occupational fields. Very broadly, these occupations include life scientists, computer and mathematical scientists, physical scientists, social scientists, and engineers. NSF also includes postsecondary teachers of these fields in STEM occupations.

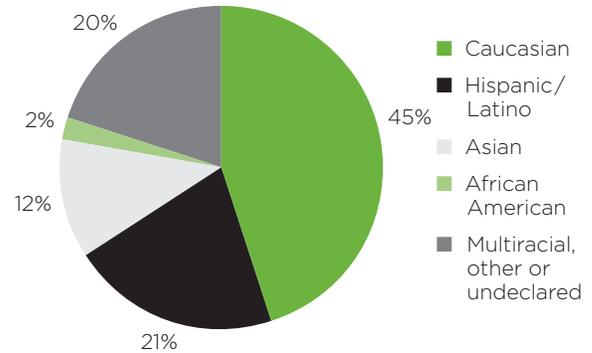


### Our Demographics

The demographic make-up of our U.S. High Tech U programs reflects the communities we serve. In the years 2010–2014, 60% were male and 40% were female. As a country, we recognize the need to expose more young women to STEM fields. High Tech U’s large percentage of young women directly addresses that need.

**Participation in HTU by a large fraction of young women helps address our country’s need to encourage more women into technology careers.**

### ETHNIC DEMOGRAPHIC MAKEUP



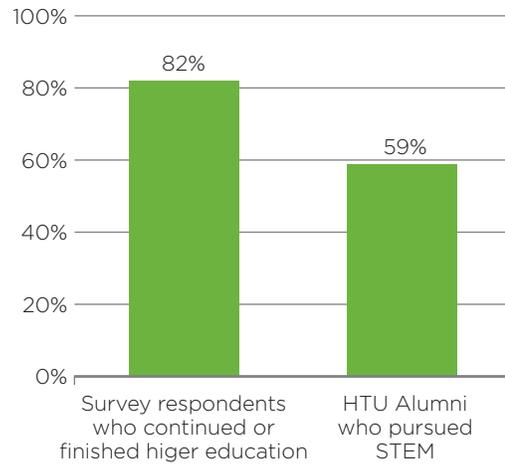
### Educational Pathways

A majority of HTU alumni continue on to higher education

- 82% are currently enrolled in/completed their higher education
- 83% are at a four-year college or university
- 17% are at a two-year or technical college

**Benchmark: The U.S. Department of Education reports that on average, 59% of students going on to higher education (all fields) complete within six years. The HTU impact survey results show 82% are enrolled in or have completed college.**

### ENROLLED IN OR COMPLETED HIGHER EDUCATION

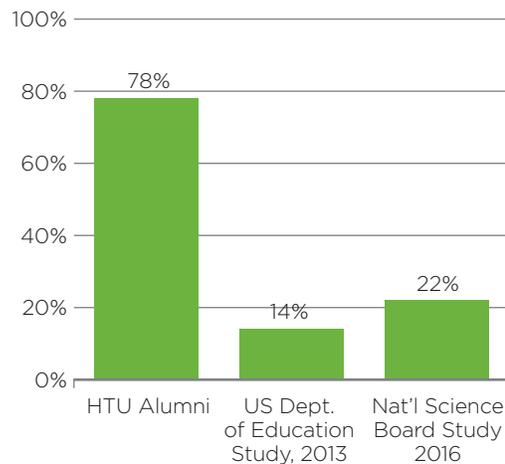


### Pursuing STEM

Of those HTU alumni who are in college or have completed college, they overwhelmingly report they are in STEM fields or have already completed a STEM degree or certificate. This “STEM Success” rate compares very favorably with two national studies.

The US Department of Education study<sup>1</sup> shows about 28% of students entering college choose a STEM field but only 14% complete it within six years. The National Science Board 2016 report<sup>2</sup> shows a trend (2007–2014) for incoming freshman increasing from 33% to 45% declaring their intended major in STEM. About half of the beginning bachelor’s degree students who declared STEM majors (data from 2003–2009) leave school or leave the field giving about 22% completion for those who enter in STEM in this study.

### PURSUIT AND COMPLETION OF STEM IN COLLEGE



1 Chen, X. (2013). *STEM Attrition: College Students’ Paths Into and Out of STEM Fields* (NCES 2014-001). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

2 Science and Engineering Indicators, 2016. National Science Board.

## Evidence of Impact

Established in 2001, SEMI High Tech U is one of the longest running STEM career awareness programs in the United States. Our 2018 survey confirms the findings of the prior 2014 and 2016 surveys. We find:

- HTU program graduates follow a path to higher education (82%)
- HTU alumni choose STEM fields in college or achieve STEM degrees (78% of those reporting)
- 53% of HTU alumni are interned or employed in STEM Fields
- 70% of the survey respondents said HTU influenced or definitely influenced their choice of field or career.

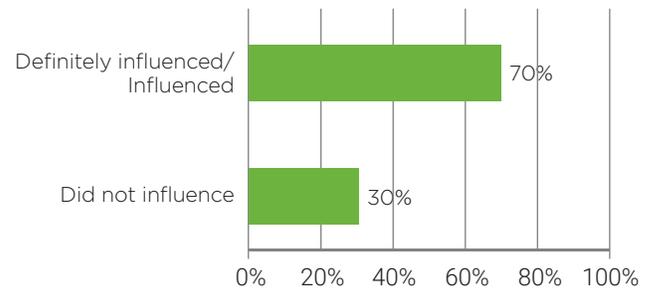
In the nation there has been an increase in students who intend to major in STEM although only about half of those who declare ultimately complete in STEM. We can summarize from the published studies, between 28% and 45% of all incoming students declare for STEM and roughly half, 14–22% of all students complete in STEM.

### **70% of the survey respondents said HTU influenced or definitely influenced their choice of field or career.**

Our longitudinal surveys show a very large fraction HTU alumni enter college, chose and complete in STEM Fields (78%.) This is substantially higher than the national norm of 14–22%.

Although HTU is a single three day experiential event, a large fraction (70%) of alumni report it apparently made a significant impact on their motivation and career decisions.

## IMPACT ON CHOICE OF FIELD OR CAREER



## Employment

63% of respondents are employed (full time/part time) or are participating in an internship. Of those, 53% are in a STEM field.

## The HTU Experience Made a Difference

When HTU alumni were asked “Looking back on your High Tech U experience, did it have an impact?” Of those responding, 70% said it influenced” or “definitely influenced” their choice of field or career.



### Contact the SEMI Foundation

Tel: 1.408.943.6900

Email: [semifoundation@semi.org](mailto:semifoundation@semi.org)

673 S. Milpitas Blvd., Milpitas, CA 95035

[www.semifoundation.org](http://www.semifoundation.org)

### SEMI Foundation Board of Trustees

John Biera—*Principal*, Central High School

Dana Ditmore—*President*, Oak Valley Consulting

Helen Gray-Jones—*Golden 1 Credit Union*

Stanley Myers—*President*, S.T. Myers and Associates

Joe Stockunas—*Corporate Vice President*, Nordson Corporation

Tom Tsuneishi—*Executive Chairman, Representative Director*,

Tokyo Electron Limited - *Chairman of the Board, SEMI - Chairman of the Board*, SEMI Foundation

Belle Wei, Ph.D.—*Carolyn Guidry Chair in Engineering Education*

and *Innovative Learning*, San José State University

Arthur W. Zafiropoulos—*Chairman, CEO and President*, Ultratech

### Officers of the SEMI Foundation

Ajit Manocha—*President and CEO*

Richard Salsman—*Chief Financial Officer*

Leslie Tugman—*Executive Director*