# National Science Foundation Science and Technology Centers Former Graduate Student Survey

This survey is being conducted by Abt Associates Inc. for the National Science Foundation (NSF), to learn about the graduate experiences, career choices, and professional activities of individuals who participated in NSF's Science and Technology Centers (STC). You are receiving this survey because you were a graduate student participant at an STC.

#### **Confidentiality and Participation**

Participation in the survey is voluntary and nonparticipation will have no impact on you or your institution. Your responses to this survey will be kept completely confidential. You will never be identified by name, and information from the study will only be reported in the aggregate.

#### Completing the Survey

Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-XXXX. NSF estimates that each respondent should take about 30 minutes to complete this survey, including time to read the instructions. You may have comments regarding this burden estimate or any other aspect of this survey, including suggestions for reducing this burden. If so, please send them to NSF Reports Clearance Officer, Division of Administrative Services, NSF, 4201 Wilson Blvd., Arlington, VA. 22230. If you have questions about the study, please contact the study director, Dr. Alina Martinez of Abt Associates Inc. at (617) 349-2312 or email her at Alina Martinez@abtassoc.com.

To learn more about this study, please refer to the **Commonly Asked Questions** page.

#### Consent

Please continue with the survey if you agree to participate in this study.

[Note for reviewers: This survey will be programmed for on-line administration. The formatting of items may appear differently on-line.]

Notes in blue are for programming purposes.

The web survey can present multiple questions on a single screen as space permits.

Some questions will be received by specific groups of individuals only. These skip patterns are indicated throughout the survey. For the pilot survey, we have included these skip patterns in text. These will be programmed into the online version.

The survey will begin with a welcome page outlining the purpose of the study, topics covered, estimated time of completion, OMB Clearance, etc, and information on how to contact us with questions.

There are places throughout the survey where Institution Name or STC name will be filled into the question or instruction text using a sample file.

By their nature, STCs develop a range of research and education opportunities for participating graduate students. For a reminder, click here for a list of the activities that the [Name of Center] in which you participated reported as available to graduate students.

[PROGRAMMING NOTE: add hyperlink to the sentence above that opens a pop-up window populated by the list of activities offered by the survey taker's specific STC.]

We now would like to ask you about your experiences participating in the [STC] as a graduate student. Please respond to the best of your recollection.

## Section A: Education & Training

A1. We have identified you as a graduate student participant at the [Name of Center]. This Center was funded under the National Science Foundation's Science and Technology Centers (STC) program. Do you recall participating this Center in some fashion?
□₁ Yes
$\square_2$ No
PROGRAMMING NOTE: if respondent answers "No" to A1, ask:
Our records indicate that you are [First Name, Middle Name/Initial, Last Name]. Is this information correct?
☐ <sub>1</sub> Yes, this is correct.
☐₂ No, my name has changed or my name is misspelled above. My name is:
$\square_3$ No, I am not the person named above. I believe you have reached me by mistake.
Our records indicate that you received a graduate degree from [INSTITUTION]. Is th correct?
☐ <sub>1</sub> Yes, this is correct.
□₂ No, I did not complete the degree.
☐₃ No, I did not attend graduate school at [INSTITUTION].
If respondent answers 3, exit survey. If responded 1 or 2, ask:
As a graduate student, do you remember participating in any of following activities offered by [Name of Center] [LIST OF STC's ACTIVITIES]?
□ <sub>1</sub> Yes
□ <sub>2</sub> No
If respondent answers "no", exit survey. If answer "yes", state:
These activities were part of [NAME OF THE CENTER] that was funded by the National Science Foundation's Science and Technology Center program. Please answer the following questions based on your experience with the STC.
Continue with survey.

We will begin this survey by asking questions about your graduate school experiences and experiences with the [Name of Center]. Throughout this survey, we will use the phrase "the STC" to refer to the [Name of Center].

A2. How did you learn about the STC? (Check all that apply.)	
☐₁ A friend or colleague informed me	
☐₁ I attended an STC recruiting event	
$\square_1$ I read about the STC on NSF's website	
$\square_1$ I read about the STC on its website	
$\square_1$ My advisor asked me to work on an STC project	
$\square_1$ I was recruited by an STC faculty or staff member	
$\square_1$ I participated in an STC undergraduate activity	
☐ <sub>1</sub> I was invited to visit the STC	
$\square_1$ I learned about the STC through some of its publications	
$\square_1$ I saw an STC presentation or booth at conference	
☐ <sub>1</sub> Other, please specify:	
A3. In what graduate degree program were you enrolled when you participated the STC? (Check all that apply.)	in
☐ <sub>1</sub> Undergraduate student	
□₁ Master's student	
☐ <sub>1</sub> Doctoral student	
☐ <sub>1</sub> Other, please specify:	
A4. When applying to graduate programs, were you interested in having interdisciplinary education or research training experiences? (Check only one.)	
□₁ Yes	
$\square_2$ No	
$\square_3$ I don't remember	
PROGRAMMING NOTE: Master's students answer A5. All others skip to A6.	
A5. When you applied to the master's program during which you participated in STC, did you intend to pursue a doctoral degree eventually?	the
□ <sub>1</sub> Yes	
$\square_2$ No	
$\square_3$ I don't remember	

PROGRAMMING NOTE: Questions A6 and A7 will be asked for each of the degrees marked in A3.

A6. In what month and year did you originally ENROLL in the [program marked above] degree program?
month year
A7. Did you graduate with this degree? (Check one only.)
☐ <sub>1</sub> Yes → Please enter month and year degree received:
month year
$\square_2$ No, I am still enrolled.
$\square_3$ No, I left the program. $\rightarrow$ Please enter month and year of departure:
month year
A8. Which of the following discipline(s) listed below best describes your field(s) when you participated in the STC? (Check all that apply.)
☐₁ Agricultural Sciences/Natural Resources
☐ <sub>1</sub> Astronomy
☐ <sub>1</sub> Atmospheric Science and Meteorology
□ <sub>1</sub> Biology
☐₁ Biomedical Sciences
☐ <sub>1</sub> Chemistry
☐ <sub>1</sub> Communications
☐₁ Computer and Information Sciences
☐ <sub>1</sub> Education
☐ <sub>1</sub> Engineering
☐₁ Geological and Earth Sciences
☐₁ Health Sciences
☐ <sub>1</sub> Humanities
☐ <sub>1</sub> Mathematics
☐₁ Ocean/Marine Sciences
□₁ Physics
☐ <sub>1</sub> Business Management/Administration
□ <sub>1</sub> Psychology
☐ <sub>1</sub> Social Sciences
☐₁ Other, please specify:

A9. Did you receive any funding for your graduate education through the STC?
□₁ Yes
$\square_2$ No
A10. Did any of the following elements of your STC experience contribute to you ability to complete your graduate degree? (Check all that apply.)
☐₁ Participation did not contribute to my degree completion
☐₁ Financial support
☐₁ Support network of STC faculty members
☐ <sub>1</sub> Support network of other STC students
☐₁ Scientific knowledge gained from STC experiences
☐₁ Skills gained from STC experiences
☐₁ STC-related research fulfilled degree requirements
☐₁ STC-related courses fulfilled degree requirements
☐₁ Satisfaction derived from my participation in the STC
☐₁ Collaboration with researchers in the STC
☐₁ Other, please specify:
A11. Did any of the following elements of your STC experience detract from you ability to complete your graduate degree? (Check all that apply.)
☐₁ Participation did not detract from my degree completion
$\square_1$ Involvement took time away from my departmental studies
☐₁ Involvement took time away from my research projects
$\square_1$ Involvement lengthened the time it took me to complete my degree
☐₁ STC faculty members discouraged my progress
☐₁ STC students discouraged my progress
$\square_1$ Involvement distanced me from students or faculty in my home department
□₁ Other, please specify:

	Listed below are decisions you may have made related to <u>a doctoral or professional degree program</u> . Did your STC experiences influence any of the following decisions? ( <i>Check all that apply.</i> )
□ <sub>1</sub> \	Whether to pursue a doctoral or professional degree
	Гуре of degree to pursue (e.g., Ph.D., M.D., M.B.A., J.D.)
<b>□</b> <sub>1</sub> (	Choice of institution and/or lab
<b>□</b> <sub>1</sub> (	Choice of discipline/field of study
$\square_1$ (	Choice of thesis/dissertation topic
<b>□</b> ₁ (	Choice of thesis/dissertation advisor
□ <sub>1</sub> F	Research methods to use in my thesis/dissertation
□ <sub>1</sub>	None of the above
	se explain how your experiences with the STC influenced decisions you made ed to pursuing a doctoral or professional degree program:
	MMING NOTE: Individuals who participated as doctoral students (see A3), ask
	postdoctoral fellowship/appointment. Did your experiences at the STC
<b>□</b> ₁ \	influence any of the following decisions? (Check all that apply.)
□ <sub>1</sub> (	influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment
□₁ ( □₁ (	influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution  Choice of supervisor
	influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution
	influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution  Choice of supervisor  Choice of discipline/field of research
☐ <sub>1</sub> ()	Influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution  Choice of supervisor  Choice of discipline/field of research  Choice of research project or dissertation  None of the above
☐1 ( ☐1 ( ☐1 ( ☐1 ) ☐1   ☐1   Plea to pi	influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution  Choice of supervisor  Choice of discipline/field of research  Choice of research project or dissertation  None of the above  se explain how your experiences with the STC influenced your decisions related
□1 ( □1 ( □1 ( □1 ( □1 f) Plea Exto pu	Influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution  Choice of supervisor  Choice of discipline/field of research  Choice of research project or dissertation  None of the above  se explain how your experiences with the STC influenced your decisions related ursuing a postdoctoral position:
□1 ( □1 ( □1 ( □1 ( □1 ( □1 ( □1 ( □1 (	Influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution  Choice of supervisor  Choice of discipline/field of research  Choice of research project or dissertation  None of the above  se explain how your experiences with the STC influenced your decisions related ursuing a postdoctoral position:  Have you ever or are you currently holding a postdoctoral appointment?
□ <sub>1</sub> (	Influence any of the following decisions? (Check all that apply.)  Whether to pursue a postdoctoral fellowship/appointment  Choice of institution  Choice of supervisor  Choice of discipline/field of research  Choice of research project or dissertation  None of the above  se explain how your experiences with the STC influenced your decisions related ursuing a postdoctoral position:  Have you ever or are you currently holding a postdoctoral appointment?  Completed postdoctoral appointment

### **Section B: Graduate School and STC Experiences**

B1. Did you receive formal training or take courses in any of the following areas as part of your STC participation? (Check all that apply.)

For a reminder of what graduate courses were offered by your STC, click here.

[PROGRAMMING NOTE: add hyperlink to the sentence above that opens a pop-up window populated by the list of courses offered by the survey taker's specific STC.]

Yes	Training/Course Area
$\square_1$	Ethics/Responsible conduct of research
	Research methods
	Laboratory methods
<b>□</b> 1	Scientific theory
$\Box_1$	Computation, simulation, and/or modeling
<b>□</b> 1	Professional communication (e.g., writing, presentation skills)
$\Box_1$	Teaching methods and practices
<b>□</b> 1	Topics related to the STC research area(s)
	None of the above

B2. Did you engage in any of the following teaching and education-related activities at the university level as part of your STC experience? (Check all that apply.)

Yes	Teaching/ Education Activity at the University Level
	Developed materials for an undergraduate/graduate level course or lab activity
	Taught a course or lab activity to undergraduate/graduate students
	Helped teach a course or lab activity to undergraduate/ graduate students, but did not give lectures
	Gave a presentation at a workshop or a seminar for undergraduate students, graduate students, or faculty
	None of the above

Yes	Other Teaching/Education Activities
□ <sub>1</sub>	Gave lectures or seminars to K-12 teachers
$\square_1$	Developed materials for K-12 teachers and students
$\square_1$	Offered research or educational experiences for the general public
$\square_1$	Participated in a community outreach event
$\square_1$	None of the above
at app	
nt app	(y.)
Yes	Event
Yes	Event Research workshop or seminar
Yes	Event  Research workshop or seminar  Professional meeting
Yes	Event  Research workshop or seminar  Professional meeting  Graduate student retreat

<sub>1</sub> Inde	ependently
₁ Onl	y within my advisor's research group
₁ Min	imal collaboration with others from the STC
₁ As	part of a disciplinary team
<sub>1</sub> As <sup>¹</sup>	part of an interdisciplinary team
	er, please specify:
	d not conduct STC-related research
researd d you d	RAMMING NOTE: If respondent answers "I did not conduct STC-related th" on B6, skip to B9.]  collaborate with any of the following individuals as part of your STC ce? (Check all that apply.)
Yes	Individual
<b>□</b> 1	Faculty
<u> </u>	Students
	Students
□₁ □₁ □₁ d you our STO	Students  Postdocs  None of the above  collaborate with researchers from any of the following institutions as part of experience? (Check all that apply.)
□1 □1 □1	Students  Postdocs  None of the above  collaborate with researchers from any of the following institutions as part of experience? (Check all that apply.)  Location
d you our STO	Students  Postdocs  None of the above  collaborate with researchers from any of the following institutions as part of experience? (Check all that apply.)  Location  My graduate program's university
Yes	Students  Postdocs  None of the above  collaborate with researchers from any of the following institutions as part of experience? (Check all that apply.)  Location  My graduate program's university  U.S. university other than my graduate program's institution
Yes  1  1  1  1  1  1  1  1  1  1  1  1  1	Students  Postdocs  None of the above  collaborate with researchers from any of the following institutions as part of experience? (Check all that apply.)  Location  My graduate program's university  U.S. university other than my graduate program's institution  Industry
1	Students  Postdocs  None of the above  collaborate with researchers from any of the following institutions as part of experience? (Check all that apply.)  Location  My graduate program's university  U.S. university other than my graduate program's institution  Industry  National labs and governmental facilities
Yes  1  1  1  1  1  1  1  1  1  1  1  1  1	Students  Postdocs  None of the above  collaborate with researchers from any of the following institutions as part of experience? (Check all that apply.)  Location  My graduate program's university  U.S. university other than my graduate program's institution  Industry

B6. In what format did you conduct STC-related research? (Check all that apply.)

БЭ.	that apply.)
	□₁ My discipline
	□₁ Other disciplines
	☐ <sub>1</sub> Research methods or familiarity with equipment
	$\square_1$ None of the above
B10.	Did your STC experience <u>increase your access</u> to any of the following? (Check all that apply.)
	☐₁ Equipment I wouldn't otherwise have had
	☐₁ Opportunities for greater research independence or responsibility
	☐₁ Opportunities for more experience across variety of topic areas
	☐₁ Faculty in other departments
	☐ <sub>1</sub> Faculty in other institutions
	$\square_1$ Graduate students in other departments
	$\square_1$ Graduate students in other institutions
	$\square_1$ None of the above
B11.	Did your STC experience <u>broaden or expand</u> any of the following? ( <i>Check all that apply.</i> )
	$\square_1$ My perspective on the problems I worked on
	☐ <sub>1</sub> Interest in collaborative research
	☐₁ Interest in interdisciplinary research
	☐₁ Ability to make connections across STC thrusts
	☐₁ My approach to research
	$\square_1$ None of the above

B12.	Did your STC experience result in any of the following outputs? (Check all that
	apply.)

	Yes	Type of Output
		Articles in peer-reviewed journals
	$\square_1$	Other publications
		Presentations
		Patents/licenses
		Not-patented tangible tools (e.g., databases, algorithms, software)
		Awards/prizes
		Postdoctoral fellowship
	□₁	Other, please specify:
		None of the above
B13.		pecify how else the research you conducted at the STC resulted in any I opportunities and/or outcomes.
B14.	who facil	have a mentor as part of your STC experience? By mentor, we mean someone itated your professional growth and development during graduate school.
	□₁ Yes	, I had at least one mentor who had the same disciplinary field as mine.
		, I had at least one mentor who had a different disciplinary focus than mine. I did not have a mentor.
	[PROGI skip to	RAMMING NOTE: If respondent answers "No, I did not have a mentor" on B14, B16.]

B15.	Did the mentor(s) you had as part of your STC experience provide any of the followin	g
	types of support? (Check all that apply.)	

Yes	Type of Support
	Helped me learn about my discipline and/or develop technical skills
	Gave constructive feedback on my performance
	Served as a professional role model
	Provided emotional support and encouragement
	Shared information about research, grant, internship, employment or other opportunities
	Shared insight into how to reach my career goals
□ <sub>1</sub>	Made an effort to know, accept, and respect my goals and interests
	Opened doors by making personal introductions
	Other:

B16.	While you were a graduate student at	[Institution Name], ho	w connected did you feel
	with STC graduate students at instituti	ions <u>outside</u> your ow	n? (Check one only.)

☐₁ I had strong relationships with STC graduate students at other institutions
$\square_2$ I felt some support from STC graduate students at other institutions
□₃ I did not feel at all connected with STC graduate students at other institutions

# B17. Did participating in any of the following STC activities <u>increase</u> your connection to graduate students at institutions <u>outside</u> your own?

STC Activity	Yes	No	I did not participate in this activity.
Internships at other institutions		$\square_2$	$\square_3$
Monthly STC graduate student meetings		$\square_2$	$\square_3$
STC professional meetings (e.g., the STC directors meeting)	□1	$\square_2$	$\square_3$
STC graduate student retreats		$\square_2$	$\square_3$
Online STC community communications like email messages, wikis, listservs, Facebook		$\square_2$	Пз
Other: please specify:		$\square_2$	$\square_3$

B18.	As part of your participation in the STC, did you hold an internship or short-term job with a company, a government laboratory, or other laboratory?
	☐₁ Yes, please indicate how many:
	$\square_2$ No
[PF	ROGRAMMING NOTE: If B18 = Yes, continue to B19; Otherwise, skip to B22]
mo	ase answer the following questions about this internship or short-term job. If you had been than one internship or short-term job as part of your STC participation, please swer for the most recent.
B19.	In what setting did you hold this internship or short-term job?
	☐₁ University or college (including university research centers/institutes)
	☐₂ Government (including government/national laboratories)
	☐₃ Non-government research center or institute
	☐₄ Industry/business
	☐₅ Private foundation or philanthropic institution
	☐ <sub>6</sub> Medical or healthcare facility
	□ <sub>7</sub> Other, please specify:
B20.	Which of the following best describes the nature of the work you did during this internship or short-term job? (Check all that apply.)
	☐₁ Research and/or development (e.g., develop/produce materials, devices, or products)
	□₁ Policy
	□₁ Teaching
	□₁ Financial
	□ <sub>1</sub> Management
	☐ <sub>1</sub> Administrative/clerical
	☐₁ Other, please specify:
B21.	Was this internship within your primary field of research?
	☐ <sub>1</sub> The internship was within my primary field of research
	$\square_2$ The internship was <u>outside</u> of my primary field of research

		engage in any of the following international experiences as part of your <b>s</b> ation? <i>(Check all that apply.)</i>
Y	es	Experience
	$\exists_1$	Conducted research at a foreign institution
	$\Box_1$	Attended a conference held in a foreign country
	<b>□</b> 1	While in the U.S., collaborated with individuals who were based at foreign institutions
	$\Box_1$	Held an internship in a foreign country
	$\Box_1$	Other, please specify:
	$\Box_1$	None of the above
disse	ertatio	list of disciplines below, please select those you used in your on/thesis for the degree program you were enrolled in during your STC ion. (Check all that apply.)
ır disse '.	ertatio	on or thesis were interdisciplinary, please mark all the disciplines upon which yo
$\square_1$	Agric	cultural Sciences/Natural Resources
$\square_1$	Astro	onomy
$\Box_1$	Atmo	ospheric Science and Meteorology
$\square_1$	Biolo	ogy
$\square_1$	Bion	nedical Sciences
<b>□</b> 1	Che	mistry
$\Box_1$	Com	munications
$\Box_1$	Com	puter and Information Sciences
□ 1	Edu	cation
$\square_1$	Engi	neering
$\square_1$	Geo	logical and Earth Sciences
$\square_1$	Heal	th Sciences
$\Box_1$	Hum	anities
$\Box_1$	Math	nematics
$\Box_1$	Ocea	an/Marine Sciences
$\square_1$	Phys	sics
$\square_1$	Busi	ness Management/Administration
<b>□</b> 1	Psyc	chology
$\Box_1$	Soci	al Sciences
$\square_1$	Othe	er, please specify:
$\square_2$	l did	not complete a thesis or dissertation.

B24.	interests similar to your own?
	□₁ Yes □₂ No
B25.	Is there anything you would change to improve the STC experience?

[PROGRAMMING NOTE: If graduated (as reported in A7), continue to Section C, otherwise skip to Section D.]

## **Section C: Your Experience Entering the Workforce**

The following questions concern your career interests and your employment after completing the degree program you were pursuing while you participated in the STC program.

	Listed below are decisions you career. Did your STC experience all that apply.)					ck			
	☐₁ Setting of career to pursue (academic, industry, government etc.)								
	$\square_1$ Choice of career type (research, teaching, entrepreneurship etc.)								
	☐₁ Choice of discipline in which t	o work							
	☐₁ Choice of specific employer								
	$\square_1$ None of the above								
	How did your STC experience	e influence y	our decision?	•					
C2.									
	Regardless of which career opt were for the following types of while participating in the STC?	jobs after co	Somewhat	degree that y	ou pursued Strongly	l don't			
l felt prep	were for the following types of	Strongly Disagree	Somewhat disagree	Somewhat agree	Strongly agree	l don't know			
I felt prep Faculty mer responsibili	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties	Strongly Disagree	Somewhat disagree	degree that y	Strongly agree	I don't know			
I felt prep Faculty mer responsibili	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties mber with only research	Strongly Disagree	Somewhat disagree	Somewhat agree	Strongly agree	l don't know			
I felt prep Faculty mer responsibili Faculty mer responsibili	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties  mber with only research ties  mber with only teaching	Strongly Disagree	Somewhat disagree	Somewhat agree	Strongly agree	I don't know			
I felt prep Faculty mer responsibili Faculty mer responsibili Faculty mer responsibili	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties  mber with only research ties  mber with only teaching	Strongly Disagree	Somewhat disagree	Somewhat agree	Strongly agree	I don't know □5			
I felt prep Faculty mer responsibili Faculty mer responsibili Faculty mer responsibili Researcher institution	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties  mber with only research ties  mber with only teaching ties	Strongly Disagree	Somewhat disagree	Somewhat agree	Strongly agree	I don't know			
Faculty meresponsibili Faculty meresponsibili Faculty meresponsibili Researcherinstitution  Researcher Non-resear	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties  mber with only research ties  mber with only teaching ties  rat a government lab or research	Strongly Disagree	Somewhat disagree	Somewhat agree	Strongly agree	I don't know			
I felt prepare Faculty meresponsibili Faculty meresponsibili Faculty meresponsibili Researcher institution Researcher Non-resear governmen	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties mber with only research ties mber with only teaching ties r at a government lab or research r/developer in industry/business ch policy or planning position in	Strongly Disagree  1 1 1 1 1	Somewhat disagree  2  2  2  2  2  2	Somewhat agree  3  3  3  3  3	Strongly agree  4  4  4  4  4	I don't know  □5  □5  □5  □5  □5			
Faculty meresponsibili Faculty meresponsibili Faculty meresponsibili Researcherinstitution Researcher Non-resear governmen Researcher	were for the following types of while participating in the STC?  pared to be a  mber with teaching and research ties  mber with only research ties  mber with only teaching ties  r at a government lab or research  r/developer in industry/business ch policy or planning position in tor nonprofit	Strongly Disagree  1 1 1 1 1 1 1	Somewhat disagree  2  2  2  2  2  2  2  2  2  2  2  2	Somewhat agree  3  3  3  3  3  3	Strongly agree  4  4  4  4  4  4  4	I don't know  □5  □5  □5  □5  □5  □5  □5			

C3.	Are you currently employed? (Check one only.)
	☐₁ Yes, in a paid full-time position
	☐₂ Yes, in a paid part-time position
	☐₃ Yes, in a postdoctoral position
	$\square_4$ Yes, in an unpaid position (e.g., internship)
	☐ <sub>5</sub> Not employed
post	OGRAMMING NOTE: Respondents indicating 1, 2, or 3 (Yes, full, part time or doctoral), skip to C5 (how difficult was it to obtain your first paid position); condents indicating 4 &5 (unpaid or no), continue to C4.]
C4.	What are your reasons for not working at this time? (Check all that apply.)
	☐₁ Seeking employment
	□₁ Student
	☐ <sub>1</sub> Family responsibilities
	☐ <sub>1</sub> Suitable job not available
	$\square_1$ Do not need or want to work
	☐ <sub>1</sub> Other, please specify:
	OGRAMMING NOTE: Unemployed respondents (C3=5) skip to Section D (Background Demographic Information)]
C5.	On the following scale from 1 to 5, how difficult was it to obtain your first paid position (including postdoctoral positions) after completing the degree program that you pursued during the time you participated in the STC?
	□₁ Not difficult at all
	☐ <sub>2</sub> A little difficult
	☐ <sub>3</sub> Moderately difficult
	☐ <sub>4</sub> Difficult
	□₅ Very difficult

Co.	position in the workforce?
	□₁ Not at all
	□₂ A little
	□₃ To some extent
	□₄ A great deal
	□₅I do not know
[PRC	OGRAMMING NOTE: If C6=1 or 5, skip to C8; If C6 = 2, 3, or 4, continue to C7.]
C7.	Did any of the following elements of your STC experience contribute to your ability to obtain a position in the workforce? (Check all that apply.)
	☐₁ Interdisciplinary research conducted
	☐₁ Access to cutting-edge tools and equipment
	☐₁ Freedom to explore research interests in more depth
	☐ <sub>1</sub> Networking opportunities with STC faculty members
	☐ <sub>1</sub> Career guidance from STC faculty members
	☐ <sub>1</sub> Networking opportunities outside my institution
	☐ <sub>1</sub> Exposure to nonacademic job opportunities
	☐ <sub>1</sub> Connections made through STC-related internships
	☐ <sub>1</sub> Opportunities to present my work
	$\square_1$ Experience working with others in the field outside my institution
	☐ <sub>1</sub> Name recognition of the STC
	☐ <sub>1</sub> Other, please specify:
	☐ <sub>1</sub> None of the above
C8.	Which of the following best describes your <u>current</u> principal employer? (Choose only one.)
	☐ <sub>1</sub> Government (including government research labs)
	☐₂ Industry/business
	☐ <sub>3</sub> College or university
	☐ <sub>4</sub> Non-government lab
	☐ <sub>5</sub> Research institution/Think tank
	☐ <sub>6</sub> Other nonprofit organization or private foundation
	☐ <sub>7</sub> K-12 school or district
	☐ <sub>8</sub> Entrepreneur/self-employed
	☐ <sub>9</sub> Other, please specify:

[PROGRAMMING NOTE: If C8=3 (College or University), continue to C9. Otherwise, skip to C12.]

C9.	What type of academic position(s) do you hold at your institution?
	□₁ Administrator (any level)
	□₂ Faculty
	☐ <sub>3</sub> Other university staff
	☐ <sub>4</sub> Postdoc (e.g., postdoctoral fellow or associate)
	☐ <sub>5</sub> Other, please specify:
C10.	What is your faculty rank? (Choose only one.)
	□₁ Professor
	☐ <sub>2</sub> Associate Professor
	☐ <sub>3</sub> Assistant Professor
	☐ <sub>4</sub> Adjunct Professor
	□ <sub>5</sub> Instructor
	□ <sub>6</sub> Lecturer
	□ <sub>7</sub> Other, please specify:
	☐ <sub>8</sub> No ranks are designated in my organization or for my position
C11.	What is your tenure status? (Choose only one.)
	□₁ Tenured
	$\square_2$ On tenure track but not tenured
	☐ <sub>3</sub> Not on tenure track
	☐ <sub>4</sub> No tenure system at this organization or for my position
C12.	Which of the following best describe(s) your current work responsibilities? (Check up to two.)
	☐₁ Research, Technology and/or Development
	☐ <sub>2</sub> Manufacturing
	☐ <sub>3</sub> Technical Services or Technical Support
	☐ <sub>4</sub> Education: Training, Teaching
	☐ <sub>5</sub> Administration, Management
	☐ <sub>6</sub> Media/Journalism (e.g., science writing, technical writing/editing)
	$\square_7$ Policy, Advocacy, and/or Lobbying
	☐ <sub>8</sub> Other, please specify:

[PROGRAMMING NOTE: If C12 = 1, 2, 3 continue to C13, otherwise skip to C14]

C13.	Which of the following characterize(s) the type of work that you do? (Check all that apply.)
	☐ <sub>1</sub> Basic research to gain scientific knowledge primarily for its own sake
	☐₁ Applied research to gain scientific knowledge to meet a recognized need
	Development where I use knowledge gained from research to produce materials, devices, and products
	☐₁ Design of equipment, processes, structures, models
	□₁ Computer applications, programming, systems development
	☐₁ Production, operations, manufacturing, maintenance (e.g., chip production, operating lab equipment)
	☐₁ Technology services/technological support
	□ <sub>1</sub> Other, please specify:
C14.	From the list of disciplines below, please select those that best describe your current work. (Check all that apply.)
	☐ <sub>1</sub> Agricultural Sciences/Natural Resources
	□ <sub>1</sub> Astronomy
	☐ <sub>1</sub> Atmospheric Science and Meteorology
	□ <sub>1</sub> Biology
	□₁ Biomedical Sciences
	☐ <sub>1</sub> Chemistry
	☐ <sub>1</sub> Communications
	☐₁ Computer and Information Sciences
	☐ <sub>1</sub> Education
	□₁ Engineering
	☐₁ Geological and Earth Sciences
	☐ <sub>1</sub> Health Sciences
	□₁ Humanities
	☐ <sub>1</sub> Mathematics
	☐₁ Ocean/Marine Sciences
	□₁ Physics
	☐ <sub>1</sub> Business Management/Administration
	□ <sub>1</sub> Psychology
	☐ <sub>1</sub> Social Sciences
	Other, please specify:

# C15. As part of your current job, do you regularly engage in the following activities? [PROGRAMMING NOTE: "How well did your STC experience prepare you?" (3 right hand columns) is grayed out until respondent marks "yes" (left hand column).]

			How well did your STC experience prepare you?			
Yes	Activity	Not Well	Well	Very Well		
Research activities						
	Apply knowledge from different disciplines to solve problems		$\square_2$	$\square_3$		
	Work as part of a team	□1	$\square_2$	Пз		
	Conduct high-risk, high-reward research	□1	$\square_2$	Пз		
	Publish research findings	□ <sub>1</sub>	$\square_2$	Пз		
	Write successful proposals	□1	$\square_2$	Пз		
	Develop and/or commercialize a service or product		$\square_2$	$\square_3$		
	Carry out research independently or with minimal supervision	□ <sub>1</sub>	$\square_2$	Пз		
	Project management activities					
	Develop my own program or agenda	□ <sub>1</sub>	$\square_2$	Пз		
	Lead projects or programs		$\square_2$	Пз		
$\Box_1$	Manage a team	$\square_1$	$\square_2$	Пз		
	Manage a budget		$\square_2$	Пз		
	Balance demands of multiple projects		$\square_2$	Пз		
	Communication activities	'	,			
$\Box_1$	Teach undergraduate/graduate level courses		$\square_2$	Пз		
	Participate in K-12 education activities		$\square_2$	$\square_3$		
	Present research findings to other researchers	□ <sub>1</sub>	$\square_2$	Пз		
	Explain my work to professionals in other disciplines	□ <sub>1</sub>	$\square_2$	Пз		
	Communicate science with policymakers		$\square_2$	Пз		
$\Box_1$	Present my or my organization's work to non-technical audiences		$\square_2$	Пз		
	Collaborative activities					
	Develop ties across organizations		$\square_2$	Пз		
	Collaborate within my own discipline	□ <sub>1</sub>	$\square_2$	Пз		
	Collaborate with researchers in other disciplines		$\square_2$	Пз		
$\Box_1$	Collaborate with researchers in other countries		$\square_2$	$\square_3$		
$\Box_1$	Develop ties across organizations	$\square_1$	$\square_2$	$\square_3$		
	Leadership activities					
	Serve as a mentor/advisor		$\square_2$	Пз		
	Participate on committees or engage in other university service	□ <sub>1</sub>	$\square_2$	Пз		
	Convene session at professional conferences		$\square_2$	Пз		
	Review grants		$\square_2$	Пз		
	Serve on a government review panel	□1	$\square_2$	Пз		

C16.	What is the greatest contribution of your STC experience to your career? (If none, write none.)

## **Section D: Background and Demographic Information**

D1.	What is your ethnicity? (Check only one.)
	☐₁ Hispanic or Latino ☐₂ Not Hispanic or Latino ☐₃ I choose not to report this information
D2.	What is your race? (Check all that apply.)
	☐ <sub>1</sub> American Indian or Alaska Native ☐ <sub>1</sub> Asian ☐ <sub>1</sub> Black or African American ☐ <sub>1</sub> Native Hawaiian or Other Pacific Islander ☐ <sub>1</sub> White ☐ <sub>1</sub> I choose not to report this information
D3.	What is your gender? (Check only one.)
D4	☐₁ Male ☐₂ Female ☐₃ I choose not to report this information  What is your citizenship status? (Check only one.)
<b>υ4</b> .	
	US Citizen  ☐ Since birth ☐ Naturalized
	Non-US Citizen  ☐₃ With a Permanent U.S. Resident Visa ("Green Card") ☐₄ With a Temporary U.S. Visa
D5.	Has anyone in your immediate family earned a Ph.D. degree in a Science, Technology, Engineering, or Mathematics field? (Check all that apply.)
	☐₁ Parent or guardian ☐₁ Sibling ☐₁ Spouse/partner ☐₁ Other, please specify: ☐₁ None of the above

Thank you for completing this survey.