Supplemental Material

CBE—Life Sciences Education

Schnoes *et al.*

Table of Contents: Supplemental Material

Text S1: UCSF/UC Davis training course summary and learning objectives.

Week 1 - Program Orientation

In session 1, participants are given an overview of the UCSF/UC Davis program to familiarize them with the program's goals, objectives, and expectations. Trainees are introduced to networking strategies and taught how to create an elevator pitch (a short personal introduction). They engage in practice of handshaking and sharing introductions in pairs and give each other feedback. Participants work in small groups to identify what they hope to gain from the UCSF/UC Davis program. These goals will be revisited in the final training session. In the UC Davis program, during this session all trainees have a professional photo taken for their LinkedIn profile. In UCSF this typically happens later in the course (times vary).

Learning Objectives
After participating in this session, attendees will be able to:
- Articulate a thorough understanding of the goals and mission of the UCSF/ UC Davis program, including expectations and requirements for participating in the program.
- Take initiative to arrange a meeting with the UCSF/UC Davis coordinator to discuss internship interests.
- Articulate their personal goals for participating in UCSF/UC Davis.
- Carry out a plan to create a list of networking contacts (UC Davis). (This occurs in week 2 for UCSF).
- Prepare and deliver an elevator speech.
- Engage in a networking conversation with a new contact.

Week 2 - Career Assessment

In Session 2, participants practice introducing themselves to those they haven't met yet. As a reminder, the goals of the UCSF/UC Davis program and the importance of active participation are discussed. Information from pre-training surveys is shared to demonstrate students' current career goals and confidence levels. Trainees are introduced to career development theory including the importance of increasing self-awareness and occupational awareness in order to make more informed career decisions. Data about the current state of the STEM PhD job market and the broad array of career options for PhD scientists is discussed. Potential career barriers are also examined in this session.

The myIDP career assessment and planning tool is presented and the role of skills, interests, and values in career decision making are examined. Participants are taught how to use myIDP and assigned homework of completing the online assessment before the next training session.

Techniques for career exploration, including how to research careers, how to conduct informational interviews, and how to network and make new contacts, are all examined both in lecture and in small group discussions.

Learning Objectives
After participating in this session, attendees will be able to:
- Engage in networking conversations and deliver an elevator pitch or introduction.
- Demonstrate awareness of the career development and exploration process including self-awareness and occupational awareness.

- Describe the current job market for STEM PhDs and understand the broad array of careers available to PhDs in these fields.
- Utilize myIDP to engage in a self-assessment of skills, interests, and values and develop awareness of the roles these play in career decision-making.

Week 3 – Creating Your Individual Development Plan (IDP)

The discussion of networking is continued from the previous session. Participants are encouraged to share their successful informational interview experiences and techniques for successful networking are reviewed and shared in lecture and small group discussions.

The importance of creating an Individual Development Plan (IDP) is introduced and the process of setting Specific, Measurable, Action-oriented, Realistic, Time-bound (SMART) goals is explained. Students work together to brainstorm and write SMART goals. The iterative nature of creating an IDP is discussed and participants are encouraged to revisit their IDP annually to update and revise it. Finally, the students are given strategies for discussing their IDPs with their mentors to get the most out of the experience and to successfully communicate their plans.

Learning Objectives
After participating in this session, attendees will be able to:
- Formulate a plan to engage in career exploration that may include research and talking with others.
- Identify methods for engaging in successful informational interviews.
- Utilize online tools for finding contact information for potential new contacts.
- Engage in the career decision making process by using the myIDP to create an individual development plan.
- Set Specific, Measurable, Action-Oriented, Realistic, Time-Bound (SMART) goals in planning career objectives.
- Analyze their individual myIDP results to explore potential career paths.
- Revise goals annually through the IDP process.
- Seek assistance from mentors in operationalizing goals.

Week 4 - Creating Your IDP Part 2, Mapping Your Goals and Creating Your IDP Poster

UC Davis activity: This session begins with an activity – "Find the Professional – Networking Game". Trainees work in small groups to identify professionals in job titles provided by the facilitators. Participants use any resources available (smart phones, laptops, etc.) to find as many individuals in the allotted time as possible and are particularly encouraged to find alums. A debrief is conducted to see which group found the most, how they found them, and what resources proved most useful. Participants are broken into pairs to share their career of interest and their informational interview plans.

UCSF activity: This session begins with an activity—"Discuss your informational interview with a peer". Each student discusses who they plan to conduct an informational interview with, or they discuss the informational interview if it has already occurred. Pairs discuss questions to ask and learning from the informational interviews. Additionally, they share names of useful contacts for future informational interviews.

The IDP process is reviewed and participants identify career goals. All trainees create an IDP poster based off of the IDP that they wrote for their homework. Using large flip chart paper,

colored pens, post-it notes, stickers and other materials, students create a poster that communicates their career goals and plans to achieve these goals over the next 12 months. Once their poster is complete, each person presents their poster to small groups of 3 other students. The groups share feedback with the presenter and switch until all have presented their posters.

Learning Objectives
After participating in this session, attendees will be able to:
- Identify potential contacts in specific career fields to engage in career discussions and decision-making.
- Develop a specific individual plan for at least one career goal.
- Prepare an IDP poster that demonstrates goals for the next 12 months.
- Present their poster to a small group for feedback and give feedback to others in a small group setting.
- Identify strategies for accomplishing goals.

Week 5 – Internship/Job Search Strategies and Resume Writing Skills

The networking topic for this training session is how to successfully network at conferences (UC Davis activity). Participants are asked to share their experiences, both positive and negative. The discussion helps to build the concept that networking is essentially purposeful conversations when meeting others, no matter what the environment. Preparation prior to a conference helps to boost confidence and increase meaningful interactions.

For UCSF the networking topic for this training session is how to use LinkedIn (students are expected to bring their laptops and follow along). An explanation of the platform and important features is presented. The process of using LinkedIn to broaden one's network and how to connect with people on the platform is discussed. The training around LinkedIn concludes with a question and answer period to help students address individualized questions and concerns.

The training then moves on to jobs search strategies. The similarities and differences between an internship and job search are discussed. Tools for an effective internship/job search include defining one's goals, staying organized, carefully following application instructions, applying to positions using as many avenues as possible, and using all of the resources available. An emphasis is placed on networking as a job search tool, including the use of LinkedIn.

This session provides detailed guidance on resume writing. The session begins with a conversation on the purpose of the resume with attention to audience and the need to tailor one's resume for each position. Examples of formatting options are presented. The central focus of the training for resume writing is content. Profiles/summary statements are emphasized as well as the writing of effective accomplishment statements. Time is devoted to peer review of resumes.

Learning Objectives
After participating in this session, attendees will be able to:
- Develop a personal strategy for conducting an internship/job search.
- Tailor a resume to a position of interest, evaluating what content to include or omit.
- Format a resume.
- Write a summary statement or profile for their resume.
- Effectively prepare for networking opportunities at professional conferences (UC Davis).

- Effectively use LinkedIn as a online resume and networking tool (UCSF).

Week 6 – Interview and Negotiation Skills
The networking topic for this training session is how to enter and exit a conversation. Interview training is divided into 3 temporal categories. 1) Prior to the interview, focusing on preparation 2) During the interview, focusing on interview questions and content of answers with detail given to the SAR method for behavioral questions and 3) After the interview, focusing on appropriate follow up.

UC Davis: Negotiation is presented as the process by which company and individual goals are met. Topics include knowing your worth, non-monetary compensation, the use of non-threatening language and common pitfalls.

UCSF: Special guests visit the classroom to discuss the interview process. Typically 1-2 guests come who have had direct experience hiring and managing PhD interns. The guests discuss the interview process from their perspective, how interviews have gone wrong, and tips for good interviewing. This portion of the session ends with a question and answer segment so that students can get their individual questions answered.

Learning Objectives
After participating in this session, attendees will be able to:
- Prepare answers to commonly asked interview questions.
- Prepare a list of questions for interviewers.
- Describe the SAR method for answering behavioral questions.
- Evaluate a job offer and develop a negotiation strategy if needed (UC Davis).
- Understand the interview process from the interviewer's personal perspective (UCSF).

Week 7 – MBTI and Effective Communication
Prior to the training session, participants complete the Myers-Briggs Type Indicator assessment. This highly interactive training session begins with an overview of effective communication. Following an introduction of each of the four MBTI dichotomies, participants review their MBTI results. Participants are led through a series of activities to illustrate type preferences and clarify MBTI results.

Learning Objectives
After participating in this session, attendees will be able to:
- Describe their personality preferences.
- Identify and give examples of the four MBTI dichotomies.
- Consider new and varied approaches to improved communication and team work based on personality.

Week 8 – Succeeding as a Professional
UC Davis: This training session begins with participants sharing what they learned from conducting informational interviews. The success stories are a powerful testament to the benefits of expanding one's network. This session is designed to allow the trainer to revisit topics of particular interest to the groups, e.g. cover letters, LinkedIn, resume review. The concept of professional reputation is introduced with topics such as email etiquette, managing up, conflict management and hints for starting a new position.

UCSF: The session opens with a discussion of negotiation, especially as it relates to a potential internship offer. Then the session goes in depth into how one actually finds an internship, including where to look online and how to leverage one's network. The UCSF policies (necessary forms) required for internship participation are also reviewed. The session then moves on to what it is like to work in the professional world. The concepts of the "halo" and "pitchfork" effects are discussed, (i.e., perceptual biases where early actions on the job can give the perception of being "good" or "bad" in a position). The concept of managing up is covered. The session delves into the process of effective interpersonal communication. The session covers email communication and managing your online presence/persona. The session ends by reviewing the goals and objectives stated by the students at the first session.

Learning Objectives
After participating in this session, attendees will be able to:
- Describe the purpose of a cover letter (UC Davis).
- Explain the purpose and benefits of informational interviewing (UC Davis).
- Implement the process of getting an internship and following the proper policies (UCSF).
- Describe the elements of good interpersonal communication (UCSF).
- Implement professional email etiquette.

Week 9 – Taking the Next Step (This is a UC Davis -only session. Most of the topics are covered by UCSF in other sessions.)
For the final session, one or more professionals from industry share career advice and answer questions. An HR professional from a local technology company is included. Next steps in the program are discussed, including the internship experience. The training session ends with a review of participant responses collected during week 1 on what they hoped to gain.

Learning Objectives
After participating in this session, attendees will be able to:
- Identify 3 methods commonly used for acquiring an internship.
- Describe one criteria used by HR professionals to evaluate applicants.
- Name at least 3 training goals that have been met.

Text S2: GSICE/CETI Program Evaluation – Focus Group Questions

1. Thinking back, what motivated you to apply to be part of GSICE/CETI? What did you think you would get out of it?

2. How many of you came into GSICE/CETI already knowing you did NOT want to pursue a career path in academia in an environment such as you are part of at UCSF/UCD? Why not?

3. When you started GSICE/CETI, did you have a particular career path or paths in mind or were you only beginning to find out about and explore career options?

4. At the time you started the GSICE/CETI workshops, how strongly committed were you to doing an internship after completing the GSICE/CETI workshops? Has your interest in doing an internship changed since then?

5. Talk briefly about what you saw as the greatest benefits or what you learned that is the most useful from the workshops.

6. Were there any topics or approaches to them that were NOT as useful as others?

7. How are you doing on identifying and scheduling an internship? Has it been easy or have there been hurdles to overcome?

8. How have other students (outside of GSICE/CETI) and faculty reacted to you being in GSICE/CETI?

9. How would you describe the overall atmosphere at UCSF/UCD with respect to students and postdocs seeking career options? Are faculty supportive of non-academic career pursuits or do they continue to stress academic careers and hold them in higher regard?

10. If GSICE/CETI didn't exist, how do you think you would have gone about exploring your career options and preparing for the next step in your career? (Follow-up probe: What might be some of the pluses and minuses of exploring your career options and preparing for the next step without the support of GSICE/CETI?)

11. Globally, PhD students and postdocs often talk about faculty not being supportive of pursing non-academic careers, often looking down on those careers and those who pursue them. Do you feel that is true here, and have you noted any changes in regard to how different careers are perceived by faculty? (Follow-up probe: If so, do you have any thoughts on what has led to any change?)

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Text S3: GSICE/CETI Program Evaluation – Interview Questions

Questions for all students
1. Tell me briefly about your current stage of training and history as a graduate student at UCSF.

2. When you came into grad school, what did you have in mind for your career? Did that change over time? How so?

3. Why did you decide to do GSICE? Did you get what you expected? Please explain.

4. Did you plan to do an internship when you started GSICE/CETI?

5. Did you receive the kind of assistance from GSICE/CETI on finding an internship that you had anticipated? Explain.

6. Are/were there circumstances that make/made an internship more possible or less possible for you?

7. Since you joined your lab, have you had conversations with your PI about career planning, internships, or GSICE/CETI participation? Please describe those interactions.

8. How would you describe the overall atmosphere at UCSF/UCD when it comes to exploring career options? Are faculty supportive of non-academic career pursuits? Are administrators and program directors supportive?

9. Is there anything in particular from GSICE that you've carried with you and continue to use?

10. What, if anything, could GSICE have provided for you that you did not get? Are there other activities or supports that GSICE or UCSF could provide to help students explore or plan for nonacademic careers?

11. If GSICE didn't exist, how do you think you would have gone about exploring your career options and preparing for the next step in your career?

12. Overall, how influential has participation in GSICE been in helping you identify a good career option for you?

13. How influential has participation in GSICE been in helping achieve that career option?

Additional questions for students who have not completed an internship
1. Do you plan to do an internship in the future? Why or why not?

2. Has your interest in doing an internship changed in any way since starting GSICE?

Additional questions for students who completed or are currently in internships

1. Tell me about the internship you are currently in or have completed. What field is it in? How long was the internship? What did you actually do during the internship? How did you find this particular internship? Did the GSICE staff assist you in securing it?

2. What led you to decide to check out this potential career option? What led you to choose the particular internship if you had more than one choice?

3. Did the internship live up to your expectations? How and how not?

4. What were some of the design/activities of the internship? How engaged, helpful and knowledgeable were the people you worked with?

5. What were some of the design/activities and/or human elements of the internship that could have been better?

6. What specific skills that you gained through your PhD training did you make most use of during the internship? Where there skills you wished you had but did not that you might have picked up from your PhD? Other skills that could not realistically come from your PhD?

7. What new skills do you think you picked up from your internship?

8. What were some of the key aspects of the career options with this internship that you discovered you really like and/or fit you very well?

9. What aspects of the career option did you not like or did not fit you well? Do you think any of these were unique to where you worked or general to the field?

10. Based on what you know today, whether you're immersed in or done with the internship, do you see yourself pursing this career? Why or why not?

11. Have you done anything more beyond the internship to start working toward this career?

12. If this is not a good fit, do you have another career plan or plans to pursue?

13. How much will/has the internship worked to open up doors for you to get into this career?

14. How much and in what ways did the GSICE workshops prepare you for the internship? Were there things that you were not prepared for, and if so, could GSICE have helped prepare you for them?

15. Did you reach out to GSICE staff at any point during your internship for advice or help with a particular issue? Did you get what you needed?

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16. Did you discuss you intended internship with your faculty mentor while you were arranging it and/or before you started? What did the two of you talk about and how did s/he respond to your idea of doing the internship?

17. Did you have any contact with your faculty mentor while you were doing the internship? If so, what did you discuss/communicate about?

18. Have you discussed your internship with your faculty mentor since it was over? What did you talk about and what was his or her reaction to your experience? If you came back to continue doing research after the internship does it seem like anything has changed in terms of how others (PI, peers, other faculty) view you?

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Text S4: Post-Course Survey*

GSICE End of Workshop Evaluation

The purpose of this survey is to allow you an opportunity to provide feedback on the GSICE workshop series you have just completed. The survey will take approximately 10-15 minutes to complete.

This survey is confidential, however it is not anonymous. Individual survey responses will only be viewable by the GSICE evaluators (Rick McGee, PhD and Michelle Naffziger-Hirsch, PhD at Northwestern University). Results from this survey will be provided to the GSICE leadership (Terri O'Brien, PhD, Bill Lindsteadt, MS and Alex Schnoes, PhD) as aggregate data or as anonymous quotes with all identifying information removed. You are free to choose not to answer any specific question except your name, which is required to record that you viewed the survey. Please feel free to email Rick or Michelle if you have questions.

We greatly appreciate you completing the survey. Your views and feedback are an important way for us to evaluate the quality of our program and continually improve it for future participants.

* UCSF GSICE version given. UC Davis CETI version questions are identical.

* **1. Name**

First: _____

Last: _____

2. What year in graduate school were you in when you applied to the GSICE program?

_____

Choose the number that corresponds to how much you agree or disagree with each of the following statements, with 1=strongly disagree, and 7=strongly agree. Please also provide comments in text boxes to help us even more to improve GSICE for next year even more.

3. The workshop series met my expectations.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

In what ways did the series meet or not meet your expectations?

_____

4. I feel that what I got out of the workshop was worth the amount of time that I put into it.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

5. I felt confident about my ability to <u>make a career decision</u> BEFORE starting the workshop series.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

6. I feel confident about my ability to <u>make a career decision</u> now that I've COMPLETED the workshop series.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

If you don't feel confident about making a career decision, what will it take or would you need to know to be more confident?

_____

7. As a result of the workshop series, I feel more confident about the <u>career path I plan to pursue</u> after my graduate training.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

If you don't feel confident about your career path, what will it take or would you need to know to be more confident?

[text box]

8. I feel prepared to seek out an internship.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

In what areas, if any, do you feel underprepared?

[text box]

9. If you mentioned areas for which you feel underprepared, are there things that GSICE could have done differently to make you feel more prepared?

[text box]

10. If you mentioned areas for which you feel underprepared, what do you think it will take to feel prepared?

[text box]

11. For which of the following career areas have you done <u>any exploration</u> SINCE THE BEGINNING OF THE WORKSHOP SERIES? *(<u>Exploration </u>is defined as any work that you have done to investigate or consider career paths including reading, talking to your peers, informational interviews, attending events and networking.)* **Check all that apply:**

☐ **1. Principal investigator in a research-intensive institution:** Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities

☐ **2. Research in industry:** Discovery or preclinical researcher; manager of a research team or facility

☐ **3. Research staff in a research-intensive institution:** Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution

☐ **4. Combined research and teaching career:** Faculty in a research university, liberal arts college, community college with major teaching responsibilities

☐ **5. Teaching-intensive careers in academia:** A primarily teaching faculty position in a research university, liberal arts college, community college

☐ **6. Science education for K-12 schools:** Classroom teacher; curriculum developer; science specialist

☐ **7. Science education for non-scientists:** Education or public outreach specialist such as at a science museum or scientific society

☐ **8. Clinical practice:** Clinician such as genetics counselor, therapist, physician

☐ **9. Public health related careers:** Public health program analyst or evaluator; epidemiologist; biostatistician; medical informaticist

☐ **10. Scientific/medical testing:** Testing specialist in an environmental, public health, genetics, or forensic science setting (intelligence agencies, federal/state departments of justice); clinical diagnostician

☐ **11. Science writing:** Science, medical, or technical writer or journalist; science editor; science publisher

☐ **12. Research administration:** Research administrator in private or public research institutions, government or academia, including compliance officers, grants and contracts officers; dean or director of research programs

☐ **13. Science policy:** Public affairs/government affairs staff at scientific societies, foundations, government entities, or think tanks

☐ **14. Intellectual property:** Patent agent; patent attorney; technology transfer specialist

☐ **15. Business of science:** Management consultant; business development professional in a biotech company; venture capitalist; market researcher; investment analyst

☐ **16. Entrepreneurship:** Starting your own business

☐ **17. Sales and marketing of science-related products:** Medical science liaison; technical sales representative; marketing specialist

☐ **18. Support of science-related products:** Technical support specialist; field application specialist; product development scientist or engineer

☐ **19. Drug/device approval and production:** Regulatory affairs professional; quality control specialist

☐ **20. Clinical research management:** Clinical research project/trials manager or coordinator

☐ **21. Other (please specify)**

12. For the careers that you explored in the previous question, please indicate whether your career interest has decreased, stayed the same, or increased. Please check ONLY the boxes for the career areas in which you did some form of career exploration *since the beginning of the workshop series:*

	Decreased	Stayed the Same	Increased
1. Principal investigator in a research-intensive institution: Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities	☐	☐	☐
2. Research in industry: Discovery or preclinical researcher; manager of a research team or facility	☐	☐	☐
3. Research staff in a research-intensive institution: Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution	☐	☐	☐
4. Combined research and teaching career: Faculty in a research university, liberal arts college, community college with major teaching responsibilities	☐	☐	☐
5. Teaching-intensive careers in academia: A primarily teaching faculty position in a research university, liberal arts college, community college	☐	☐	☐
6. Science education for K-12 schools: Classroom teacher; curriculum developer; science specialist	☐	☐	☐
7. Science education for non-scientists: Education or public outreach specialist such as at a science museum or scientific society	☐	☐	☐
8. Clinical practice: Clinician such as genetics counselor, therapist, physician	☐	☐	☐
9. Public health related careers: Public health program analyst or evaluator; epidemiologist; biostatistician; medical informaticist	☐	☐	☐
10. Scientific/medical testing: Testing specialist in an environmental, public health, genetics, or forensic science setting (intelligence agencies, federal/state departments of justice); clinical diagnostician	☐	☐	☐
11. Science writing: Science, medical, or technical writer or journalist; science editor; science publisher	☐	☐	☐
12. Research administration: Research administrator in private or public research institutions, government or academia, including compliance officers, grants and contracts officers; dean or director of research programs	☐	☐	☐

☐ ☐ ☐

13. Science policy: Public affairs/government affairs staff at scientific societies, foundations, government entities, or think tanks

☐ ☐ ☐

14. Intellectual property: Patent agent; patent attorney; technology transfer specialist

☐ ☐ ☐

15. Business of science: Management consultant; business development professional in a biotech company; venture capitalist; market researcher; investment analyst

☐ ☐ ☐

16. Entrepreneurship: Starting your own business

☐ ☐ ☐

17. Sales and marketing of science-related products: Medical science liaison; technical sales representative; marketing specialist

☐ ☐ ☐

18. Support of science-related products: Technical support specialist; field application specialist; product development scientist or engineer

☐ ☐ ☐

19. Drug/device approval and production: Regulatory affairs professional; quality control specialist

☐ ☐ ☐

20. Clinical research management: Clinical research project/trials manager or coordinator

☐ ☐ ☐

21. Other (please specify)

[text box]

13. For which of the following career areas have you done <u>one or more informational interviews</u> *since starting the workshop series?* Check all that apply.

☐ **1. Principal investigator in a research-intensive institution:** Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities

☐ **2. Research in industry:** Discovery or preclinical researcher; manager of a research team or facility

☐ **3. Research staff in a research-intensive institution:** Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution

☐ **4. Combined research and teaching career:** Faculty in a research university, liberal arts college, community college with major teaching responsibilities

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☐ **19. Drug/device approval and production:** Regulatory affairs professional; quality control specialist

☐ **20. Clinical research management:** Clinical research project/trials manager or coordinator

☐ **21. Other (please specify)**

14. As of today, my preferred career path is:

☐ **1. Principal investigator in a research-intensive institution:** Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities

☐ **2. Research in industry:** Discovery or preclinical researcher; manager of a research team or facility

☐ **3. Research staff in a research-intensive institution:** Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution

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☐ **15. Business of science:** Management consultant; business development professional in a biotech company; venture capitalist; market researcher; investment analyst

☐ **16. Entrepreneurship:** Starting your own business

☐ **17. Sales and marketing of science-related products:** Medical science liaison; technical sales representative; marketing specialist

☐ **18. Support of science-related products:** Technical support specialist; field application specialist; product development scientist or engineer

☐ **19. Drug/device approval and production:** Regulatory affairs professional; quality control specialist

☐ **20. Clinical research management:** Clinical research project/trials manager or coordinator

☐ **21. Other (please specify)**

15. Related to the question above, mark the sentence that best describes your situation:

◯ a. I am very confident in this career choice.

◯ b. I am fairly confident in this career choice.

◯ c. I am still considering a range of career options.

16. In addition to using what I learned in the GSICE workshops for seeking internships, I also anticipate using what I learned…

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
a. …for finding jobs other than typical post-doctoral positions	◯	◯	◯	◯	◯	◯	◯
b. …in my future search for typical post-doctoral positions.	◯	◯	◯	◯	◯	◯	◯
c. …in my search for possible career options (I'm still undecided).	◯	◯	◯	◯	◯	◯	◯
d. …in my general graduate training.	◯	◯	◯	◯	◯	◯	◯

e. Are there other ways you can see that you might use this information in the future?

17. What topics or skills do you wish had been covered that were not?

How strong would you rate your skills in comparison to your peers (any other non GSICE graduate students) in each of the following areas: 1 = quite a bit below my peers 2 = a bit below my peers 3 = very similar to my peers 4 = a bit above my peers 5 = quite a bit above my peers, or NC = no clue-you really aren't sure how you compare to others

18. Skill Level <u>Before</u> participating in the Workshop Series

1 = quite a bit below my peers	2 = a bit below my peers	3 = very similar to my peers	4 = a bit above my peers	5 = quite a bit above my peers	NC = no clue
Career exploration skills					
◯	◯	◯	◯	◯	◯
How to use an IDP					
◯	◯	◯	◯	◯	◯
How to conduct an informational interview					
◯	◯	◯	◯	◯	◯
Resume writing					
◯	◯	◯	◯	◯	◯
Job interview sills					
◯	◯	◯	◯	◯	◯
Ability to communicate in written format in a professional way					
◯	◯	◯	◯	◯	◯
Ability to have a constructive professional work-based conversation					
◯	◯	◯	◯	◯	◯
Ability to consciously construct a strategy for making a good first impression					
◯	◯	◯	◯	◯	◯
Ability to appreciate others' personality types					
◯	◯	◯	◯	◯	◯
Ability to effectively communicate and work with others who have different personality types than your own					
◯	◯	◯	◯	◯	◯

GSICE End of Workshop Evaluation

19. Skill Level <u>After</u> participating in the Workshop Series

	1 = quite a bit below my peers	**2 = a bit below my peers**	**3 = very similar to my peers**	**4 = a bit above my peers**	**5 = quite a bit above my peers**	**NC = no clue**
Career exploration skills	○	○	○	○	○	○
How to use an IDP	○	○	○	○	○	○
How to conduct an informational interview	○	○	○	○	○	○
Resume writing	○	○	○	○	○	○
Job interview sills	○	○	○	○	○	○
Ability to communicate in written format in a professional way	○	○	○	○	○	○
Ability to have a constructive professional work-based conversation	○	○	○	○	○	○
Ability to consciously construct a strategy for making a good first impression	○	○	○	○	○	○
Ability to appreciate others' personality types	○	○	○	○	○	○
Ability to effectively communicate and work with others who have different personality types than your own	○	○	○	○	○	○

20. As a result of participating in the workshop series, I feel more confident in my ability to….

	1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
a. Secure an internship	○	○	○	○	○	○	○
b. Find a career fit	○	○	○	○	○	○	○
c. Achieve my career goal, whatever that turns out to be	○	○	○	○	○	○	○

d. Other ways in which I feel more confident:

21. This workshop series has helped me clarify my career interests.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

22. I was open with my PI or immediate supervisor about my participation in this workshop series.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
○	○	○	○	○	○	○

23. My PI seemed supportive of my participation in the workshop series.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree	N/A
○	○	○	○	○	○	○	○

If you encountered positive reactions to your participation in the workshop series, would you say these were subtle or overt? Describe what you mean.

[text box]

24. My labmates seemed supportive of my participation in the workshop series.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree	N/A
○	○	○	○	○	○	○	○

If you encountered positive reactions to your participation in the workshop series, would you say these were subtle or overt? Describe what you mean.

[text box]

25. I encountered resistance or negative reactions to my participation in the workshop series from my PI.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree	N/A
○	○	○	○	○	○	○	○

If you encountered resistance or negative reactions to your participation in the workshop series, would you say these were subtle or overt? Describe what you mean.

[text box]

26. I encountered resistance or negative reactions to my participation in the workshop series from my labmates.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree	N/A
◯	◯	◯	◯	◯	◯	◯	◯

If you encountered resistance or negative reactions to your participation in the workshop series, would you say these were subtle or overt? Describe what you mean.

[text box]

27. Did others who were not part of the workshop series this quarter ask you about what you were learning?

◯ Yes

◯ No

28. Did you discuss or share what you learned with anyone who was not part of the workshop series this quarter?

◯ Yes

◯ No

If so, with whom and what did you share?

[text box]

29. Now that I have participated in this workshop series, I have the sense that my PI or others in the lab look at me differently.

1. Strongly Disagree	2.	3.	4.	5.	6.	7. Strongly Agree
◯	◯	◯	◯	◯	◯	◯

If so, how? Describe what you mean.

[text box]

30. During your time as a graduate student have you seen any changes in your own PI's attitudes with regard to values of various career options?

○ Yes

○ No

If you have seen a change, do you have any speculations about why these changes in attitude might have taken place?

31. Have you talked about the GSICE program with any PhD program applicants (prospective students)?

○ Yes

○ No

If so, did you get any indication that it was seen as a positive reason to come to UCSF?

32. Final Thoughts?

Thank You

Thank you for taking the time to fill out this survey. Your views and feedback are an important way for us to evaluate the quality of the GSICE program and continually improve it for future participants. Please click "done" to submit your survey.

Text S5: Post-Internship Survey*

GSICE Internship (Eval by Student)

1. Introduction

The purpose of this survey is to give you the opportunity to comment on your internship experience and the GSICE program. This survey will take you 10-15 minutes to complete.

This survey is confidential, however it is not anonymous. Individual survey responses will only be viewable by the GSICE staff. Results from the survey will only be disseminated as aggregate data or as anonymous quotes (with all identifying information removed).

Most questions in the survey are optional. Any questions that are not optional are marked and are used only for internal identification purposes (i.e., your name and the name of the internship site, etc.). At the end of the survey you will have the opportunity to make comments on your internship experience that can be communicated back to the internship site (but only with your agreement). Let the GSICE program coordinator know if you have any questions or concerns.

We greatly appreciate you completing the survey out. It is very important for the improvement and growth of the GSICE program that we get your feedback. Many thanks!

* UCSF GSICE version given. UC Davis CETI version questions are identical.

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2. Identification

* 1. Please give your name.

First name

Last name

* 2. What graduate program are you/were you in?

* 3. Please identify your internship site.

Site/Company Name:

City/Town:

State:

* 4. When was your internship?

	MM	DD	YYYY
Internship start date		/	/
Internship end date		/	/

* 5. Please choose the area in which you did your internship.

◯ **research-intensive work in biotech/pharma**

◯ **science education for the general public:** working at a science museum, public outreach for science-based organizations

◯ **science education for schools:** curriculum development, science education researcher, K-12 teacher or science specialist, science education partnership director in university

◯ **science policy** (*e.g.*, National Academies, NIH, legislative work, think tanks)

◯ **writing-related** (*e.g.*, science writing, medical writing, technical writing, editing, science journalism, publishing)

◯ **law-related** (*e.g.*, patent agent, patent attorney, technology transfer)

◯ **business of science** (*e.g.*, management consulting, business development, venture capital, marketing, competitive intelligence)

◯ **clinical regulatory affairs** (*e.g.*, FDA, drug trials in pharma)

◯ **non-research technical work** (*e.g.*, quality control, manufacturing, technical sales, technical support)

◯ **program administration & management** (*e.g.*, biotech project manager, academic program coordinator/director, program officer at a foundation, program officer at NIH)

◯ **Other field not listed** (please specify)

* 6. Please complete the following sentence with the appropriate choice: "My GSICE internship occurred ...

◯ while I was in graduate school."

◯ after I graduated from graduate school."

3. Internship During Graduate School

* 1. In what year in graduate school did you do your internship? *(A 'year' in graduate school starts at the beginning of the Fall quarter and ends at the end of the Summer quarter.)*

[   ]

* 2. Are you still in graduate school now?

◯ Yes

◯ No

4. Graduation Information

* **1. Please provide your graduation information:**

	Quarter	Month	Year
When did you graduate?			

* **2. In what year of graduate school did you graduate?** *(A 'year' in graduate school starts at the beginning of the Fall quarter and ends at the end of the Summer quarter.)*

5. The Internship Site: Mentor

* 1. Please identify your primary mentor at your internship site.

First name

Last name

2. Please rate your experience with your primary internship mentor/manager by indicating the level of your agreement to the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
My mentor was available to me when I needed him/her.	◯	◯	◯	◯	◯	◯	◯
I felt that my mentor gave me a good orientation to my internship.	◯	◯	◯	◯	◯	◯	◯
I felt comfortable asking my mentor questions.	◯	◯	◯	◯	◯	◯	◯
My mentor met with me on a regular schedule.	◯	◯	◯	◯	◯	◯	◯
My mentor seemed to care about the quality of my work.	◯	◯	◯	◯	◯	◯	◯
My mentor gave me useful feedback.	◯	◯	◯	◯	◯	◯	◯
I *did not* feel comfortable working with my mentor.	◯	◯	◯	◯	◯	◯	◯
My mentor seemed to care about my career and professional development.	◯	◯	◯	◯	◯	◯	◯
I would recommend this mentor for another GSICE intern.	◯	◯	◯	◯	◯	◯	◯

6. The Internship Site: Colleagues & Culture

1. Please rate your experience with your internship colleagues (other employees working at the site) by indicating the level of your agreement to the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
My colleagues were helpful.	◯	◯	◯	◯	◯	◯	◯
I felt comfortable asking my colleagues questions.	◯	◯	◯	◯	◯	◯	◯
I *did not* feel comfortable working with my colleagues.	◯	◯	◯	◯	◯	◯	◯
I would recommend this work environment to another GSICE intern.	◯	◯	◯	◯	◯	◯	◯

2. Please rate your experience by indicating the level of your agreement to the following statements. (*'Culture': the shared attitudes, expectations, beliefs and values of your internship organization*).

	1 (Disagree)	2	3	4	5	6	7 (Agree)
The culture of the internship site was different from the culture in academia.	◯	◯	◯	◯	◯	◯	◯
I found it challenging to adjust to the internship site culture.	◯	◯	◯	◯	◯	◯	◯
Networking with other employees at the internship site was encouraged.	◯	◯	◯	◯	◯	◯	◯
Interpersonal skills seemed important at the internship site.	◯	◯	◯	◯	◯	◯	◯
I *did not* enjoy working in the culture of the internship site.	◯	◯	◯	◯	◯	◯	◯

7. The Internship Site: Work

1. Please rate your experience working on your internship projects by indicating the level of your agreement to the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
My internship consisted of well-defined projects.	○	○	○	○	○	○	○
The duties assigned to me seemed appropriate given the length of my internship.	○	○	○	○	○	○	○
The duties assigned to me seemed appropriate given my background and skills.	○	○	○	○	○	○	○
My internship projects changed frequently.	○	○	○	○	○	○	○
When performing my duties, I understood why my current project was important.	○	○	○	○	○	○	○
When performing my duties, I understood why I was doing my project in a particular manner.	○	○	○	○	○	○	○
My projects were 'team oriented', (*i.e.*, multiple people communicated to each other about the project and contributed to its completion).	○	○	○	○	○	○	○
The work assignments I had on my internship were what I had expected them to be before I started my internship.	○	○	○	○	○	○	○
I felt like I was doing 'real work'.	○	○	○	○	○	○	○
I felt like my work was valued.	○	○	○	○	○	○	○
I enjoyed performing my internship work.	○	○	○	○	○	○	○

8. Internship: General Comments

1. Please use this space to make any additional comments about your mentor, colleagues, internship site culture or internship work. These comments _will not_ be shared with anyone at your internship site.

9. Career Path, After Internship

1. After having done your internship, right now what is your *first choice* career path?

○ **principal investigator of a lab in a major research-intensive institution**

○ **other research-intensive careers in academia:** senior bench scientist or lab manager in a larger lab, director of a multi-user research facility within an academic institution

○ **research-intensive career paths in biotech/pharma:** bench researcher, managing research teams or research facilities

○ **bench science careers in government:** bench researcher (e.g., at NIH, EPA, DOE, USDA), or forensic science (intelligence agencies, federal/state dept. of justice)

○ **careers in academia with heavy emphasis on teaching along with research:** faculty at a 4-year college, masters-granting university, or doctoral-granting university whose job includes both research and major teaching responsibilities

○ **teaching-intensive careers in academia:** faculty in community college, university lecturer, course director

○ **science education for the general public:** working at a science museum, public outreach for science-based organizations

○ **science education for schools:** curriculum development, science education researcher, K-12 teacher or science specialist, science education partnership director in university

○ **healthcare-related careers:** public health agency, genetics counseling, medical informatics/biostatistics

○ **writing-related careers:** science writing, medical writing, technical writing, editing, science journalism, publishing, other communications

○ **policy-related careers:** science policy in public sector, science policy in private sector (think tanks, etc.), educational policy, management of science services or societies, working at a foundation or research-funding agency

○ **law-related careers:** patent agent, patent attorney, technology transfer

○ **careers related to the business of science:** management consulting, business development in a biotech company, venture capital, biotech entrepreneurship, market research, investment banking, technical sales, technical support

○ **careers related to drug approval and production:** regulatory (FDA or within a company), clinical research/trials management, process development (e.g., scaling up drug production), quality control

○ **other science-related career (please specify below)**

○ **other career not using your science content knowledge (please specify below)**

Please specify here

[   ]

2. Related to the question above, mark the sentence that best describes your situation:

○ I am very confident in this career choice.

○ I am fairly confident in this career choice.

○ I am still considering a range of career options.

10. Internship & Career

1. Please indicate your level of agreement with the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
Because of my internship, I now have a much better idea of what the career represented by my internship is like.	◯	◯	◯	◯	◯	◯	◯
Because of my internship, I now have a better sense of how to prepare for my chosen career path.	◯	◯	◯	◯	◯	◯	◯
The career represented by my internship turns out to be different than what I thought it would be.	◯	◯	◯	◯	◯	◯	◯
Because of my internship, my professional network has expanded.	◯	◯	◯	◯	◯	◯	◯
Because of my internship, I am more confident about my current first choice career path.	◯	◯	◯	◯	◯	◯	◯
Because of my internship, I have decided to change career paths.	◯	◯	◯	◯	◯	◯	◯
I am glad I did my internship.	◯	◯	◯	◯	◯	◯	◯

Please feel free to add any further comments on your current career choice.

11. Internship & Timing

If you did your internship *during* graduate school, please answer these questions. If you did your internship *after* graduate school, please click to the next page.

1. If you did your internship *during* graduate school, please indicate your level of agreement with the following statements. *(If you have graduated already, please answer this question using how you felt after your internship but before you graduated.)*

	1 (Disagree)	2	3	4	5	6	7 (Agree)
Because of my internship, I am now more motivated to complete my PhD in a timely manner.	○	○	○	○	○	○	○
Because of my internship, I have decided I do not need a PhD.	○	○	○	○	○	○	○
Because of my internship, I now feel less distracted by career exploration issues.	○	○	○	○	○	○	○
Because of my internship, I now have a clearer career plan post graduation.	○	○	○	○	○	○	○

Please feel free comment about your internship and how your it may be affecting your time to degree/plans after graduation.

2. If you did your internship *during* graduate school, please indicate your level of agreement with the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
I found it difficult to make time for an internship during graduate school.	○	○	○	○	○	○	○
I wish I had waited and done my internship after graduation.	○	○	○	○	○	○	○
I wish I had done my internship earlier in my graduate career.	○	○	○	○	○	○	○
I had difficulty getting my PI to agree to my doing an internship.	○	○	○	○	○	○	○
I had difficulty getting my thesis committee to agree to my doing an internship.	○	○	○	○	○	○	○

Please feel free comment about your internship, its timing and any issues you had doing the internship while in graduate school.

12. Internship & Timing

Please answer these questions if you did your internship *after* graduation.

1. If you did your internship *after* graduate school, please indicate your level of agreement with the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
Because of my internship, I realize I did not need to get a PhD.	○	○	○	○	○	○	○
Because of my internship, I now feel less distracted by career exploration issues.	○	○	○	○	○	○	○
Because of my internship, I now have a clearer career plan.	○	○	○	○	○	○	○

Please feel free comment about your internship and how it may be affecting your career path now.

2. If you did your internship *after* graduate school, please indicate your level of agreement with the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
I wish I had done my internship during graduate school.	○	○	○	○	○	○	○
I did not do an internship during graduate school because I thought my PI would not approve.	○	○	○	○	○	○	○
I did not do an internship during graduate school because I thought my thesis committee would not approve.	○	○	○	○	○	○	○
I did not do an internship during graduate school because I thought it would extend my time to degree.	○	○	○	○	○	○	○
I tried to do an internship during graduate school but I could not secure an internship position.	○	○	○	○	○	○	○

Please feel free comment about your internship, its timing and any issues you had doing the internship after graduate school.

13. The Internship Site: Environment & Logistics

1. Please rate your experience in the internship site facilities and environment by indicating how well you agree with the following statements.

	1 (Disagree)	2	3	4	5	6	7 (Agree)
The internship site facilities were adequate for the work I needed to perform.	◯	◯	◯	◯	◯	◯	◯
I felt safe working at the internship site.	◯	◯	◯	◯	◯	◯	◯
Getting to/from the internship site was easy for me.	◯	◯	◯	◯	◯	◯	◯

2. You commuted to/from the internship site in the following manner:

◯ I usually walked to/from the site.

◯ I usually took public transportation to/from the site.

◯ I usually drove to/from the site.

◯ I usually used a variety of ways to get to/from the site.

3. Please add any further comments on commuting to the internship, the internship location or its environment. These comments _will not_ be shared with anyone at your internship site.

14. Your internship & GSICE

1. These questions all relate to the GSICE training in relation to your internship. Please indicate how well you agree with the following statement

	1 (Disagree)	2	3	4	5	6	7 (Agree)
I knew what type of internship I wanted before I started the GSICE training.	○	○	○	○	○	○	○
I changed what kind of internship I applied for because of the GSICE training.	○	○	○	○	○	○	○
The Career Assessment Worksheet (CAW) and the associated workshop were valuable in helping me decide on what type of internship I wanted.	○	○	○	○	○	○	○
The Individual Development Plan (IDP) and the associated workshops were valuable in helping me plan how to find an internship.	○	○	○	○	○	○	○
The Individual Development Plan (IDP) and the associated workshops were valuable in helping me plan when I would do my internship.	○	○	○	○	○	○	○
The Job Search & Resume Skills workshop was valuable in helping me secure an internship.	○	○	○	○	○	○	○
The Interview Skills workshop was valuable in helping me secure an internship.	○	○	○	○	○	○	○
The Internship Preparation workshop (online persona, halo/pitchfork effect and making a good impression, interpersonal skills) was valuable in helping me prepare for my internship culture.	○	○	○	○	○	○	○

2. What part of the GSICE training was particularly useful for you to prepare for your internship?

[text box]

3. What would you add to the GSICE training to better prepare students for their internship experience?

[text box]

15. Career Path, Before Internship

1. Before you did your internship, what area was your *first choice* career path?

○ **principal investigator of a lab in a major research-intensive institution**

○ **other research-intensive careers in academia:** senior bench scientist or lab manager in a larger lab, director of a multi-user research facility within an academic institution

○ **research-intensive career paths in biotech/pharma:** bench researcher, managing research teams or research facilities

○ **bench science careers in government:** bench researcher (e.g., at NIH, EPA, DOE, USDA), or forensic science (intelligence agencies, federal/state dept. of justice)

○ **careers in academia with heavy emphasis on teaching along with research:** faculty at a 4-year college, masters-granting university, or doctoral-granting university whose job includes both research and major teaching responsibilities

○ **teaching-intensive careers in academia:** faculty in community college, university lecturer, course director

○ **science education for the general public:** working at a science museum, public outreach for science-based organizations

○ **science education for schools:** curriculum development, science education researcher, K-12 teacher or science specialist, science education partnership director in university

○ **healthcare-related careers:** public health agency, genetics counseling, medical informatics/biostatistics

○ **writing-related careers:** science writing, medical writing, technical writing, editing, science journalism, publishing, other communications

○ **policy-related careers:** science policy in public sector, science policy in private sector (think tanks, etc.), educational policy, management of science services or societies, working at a foundation or research-funding agency

○ **law-related careers:** patent agent, patent attorney, technology transfer

○ **careers related to the business of science:** management consulting, business development in a biotech company, venture capital, biotech entrepreneurship, market research, investment banking, technical sales, technical support

○ **careers related to drug approval and production:** regulatory (FDA or within a company), clinical research/trials management, process development (e.g., scaling up drug production), quality control

○ **other science-related career (please specify below)**

○ **other career not using your science content knowledge (please specify below)**

Please specify here your 'other' category

[   ]

2. Related to the question above, mark the sentence that best described your situation:

○ I was very confident in this career choice.

○ I was fairly confident in this career choice.

○ I was still considering a range of career options.

16. Final Thoughts

1. Please use this space to add any additional thoughts, critiques or comments about your internship experience or the GSICE program.

2. Please use this space to make any comments that you would not mind shared with the internship site (e.g., on mentoring, project choice, environment etc).

◯ I **CONFIRM** that it is OK to share what I write in the box below with my internship site and internship mentor

Comments on internship

17. Thank You!

Thank you for filling out this survey. You have given us valuable information that will help students and the continued

Text S6: Post-PhD Survey
(UCSF GSICE example given. Questions are identical for UC Davis CETI survey.)

Q1 Introduction: The purpose of this survey is to understand where you are in regards to your career and career aspirations. We will use this information in 3 ways: Improve the GSICE program Evaluate how well the GSICE program prepared you to transition into your chosen career field of interest Report these results, in aggregate and de-identified, to the UCSF community, GSICE program funders, and in publications or other national arenas   Because of these goals, your answers to these survey questions are very important. It should take you no more than 10-15 minutes to finish the survey. We will only ask you to fill this out once a year.   The survey is confidential but not anonymous. Most of the survey is optional, only certain questions, which allow us to identify you, are required. Individual survey responses will only be viewable by staff members associated directly with the GSICE program and their designated collaborators (i.e., the UC Davis FUTURE internship program staff, and the evaluation team from the Scientific Careers Research and Development Group at the Northwestern University Feinberg School of Medicine). Data, if they are reported, will only be shared as aggregated data or unidentified comments.   Please let the GSICE program manager know if you have any questions or concerns. Thank you for filling out the survey.

Q2 Please give your name:
    First Name (1)
    Last Name (2)

Q3 Please give us your preferred contact email address:

Q4 Please identify your current primary employment:
    Job Title (1)
    Organization (2)
    Department (if applicable) (3)

Q5 Please mark all that apply to your situation:

- ❑ I am currently employed full-time. (1)
- ❑ I am currently employed part-time. (2)
- ❑ I am currently unemployed. (3)
- ❑ I would prefer to be working full-time. (4)
- ❑ I would prefer to be working part-time. (5)
- ❑ I am currently looking for work. (6)
- ❑ I am self-employed (freelancer, contractor, etc) as my primary employment. (7)
- ❑ My current primary employment fits my career path goals. (8)
- ❑ My current primary employment does not fit my career path goals. (9)
- ❑ I am underemployed (i.e., working in a position that underuses my full skills and abilities). (10)

Q6 For your primary employment, what career area are you currently employed in?

○ Principal investigator in a research-intensive institution: Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities... (1)

○ Research in industry: Discovery or preclinical researcher; manager of a research team or facility... (2)

○ Research staff in a research-intensive institution: Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution... (3)

○ Combined research and teaching career: Faculty at a liberal arts college or university whose job includes both research and major teaching responsibilities... (4)

○ Teaching-intensive careers in academia: A primarily teaching faculty position in a research university, liberal arts college, community college... (5)

○ Science education for K-12 schools: Classroom teacher; curriculum developer; science specialist... (6)

○ Science education for non-scientists: Education or public outreach specialist such as at a science museum or scientific society... (7)

○ Clinical practice: Clinician such as genetics counselor, therapist, physician... (8)

○ Public health related careers: Public health program analyst or evaluator; epidemiologist; biostatistician; medical informaticist... (9)

○ Scientific/medical testing: Testing specialist in an environmental, public health, genetics, or forensic science setting (intelligence agencies, federal/state departments of justice); clinical diagnostician... (10)

○ Science writing: Science, medical, or technical writer or journalist; science editor; science publisher... (11)

- ❍ Research administration: Research administrator in private or public research institutions, government or academia, including compliance officers, grants and contracts officers; dean or director of research programs... (12)
- ❍ Science policy: Public affairs/government affairs staff at scientific societies, foundations, government entities, or think tanks... (13)
- ❍ Intellectual property: Patent agent; patent attorney; technology transfer specialist... (14)
- ❍ Business of science: Management consultant; business development professional in a biotech company; venture capitalist; market researcher; investment analyst... (15)
- ❍ Entrepreneurship: Starting your own business... (16)
- ❍ Sales and marketing of science-related products: Medical science liaison; technical sales representative; marketing specialist... (17)
- ❍ Support of science-related products: Technical support specialist; field application specialist; product development scientist or engineer... (18)
- ❍ Drug/device approval and production: Regulatory affairs professional; quality control specialist... (19)
- ❍ Clinical research management: Clinical research project/trials manager or coordinator... (20)
- ❍ Other: (21) _____

Q7 Is this job in your current first choice career area?
- ❍ Yes (1)
- ❍ No (2)
- ❍ Undecided (3)

Q8 Your current first choice career area is:

○ Principal investigator in a research-intensive institution: Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities... (1)

○ Research in industry: Discovery or preclinical researcher; manager of a research team or facility... (2)

○ Research staff in a research-intensive institution: Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution... (3)

○ Combined research and teaching career: Faculty at a liberal arts college or university whose job includes both research and major teaching responsibilities... (4)

○ Teaching-intensive careers in academia: A primarily teaching faculty position in a research university, liberal arts college, community college... (5)

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❍ Clinical research management: Clinical research project/trials manager or coordinator... (20)
❍ Other: (21) _____

Q9 How did you get your current employment position?

Q10 How long did it take you to find this position once you started looking for a job?

Display This Question:
    If No Is Selected

Q11 What do you consider the biggest challenges to you moving into your career area of choice?

Q12 How do you feel the GSICE program overall impacted your current career?

Q13 Which of the following options best describes your internship or temporary work experiences (please choose all that apply):

❑ I did one or more full-time internship or temporary work experiences during or right after graduate school. (1)

❑ I did one or more part-time internship or temporary work experiences during or right after graduate school. (2)

❑ I did not do any internships or temporary work experiences during or right after graduate school. (3)

Display This Question:
  If Which of the following options best describes your internship or temporary work experiences (plea... I did one or more full-time internship or temporary work experiences during or right after graduate school. Is Selected

Q14 How many full-time internships or temporary work experiences did you do during or right after graduate school?

Display This Question:
  If Which of the following options best describes your internship or temporary work experiences (plea... I did one or more part-time internship or temporary work experiences during or right after graduate school. Is Selected

Q15 How many part-time internships or temporary work experiences did you do during or right after graduate school?

Q16 Please answer the following questions related to the ${lm://Field/2} of your full-time internship or full-time temporary work experiences.

Q17 Which of the following best describes the timing of this full-time internship/temporary work experience relative to your graduate career:

○ I did my internship during graduate school, and came back to UCSF to finish my graduate research and degree. (1)
○ I technically did my internship during graduate school, but I graduated either during or at the end of my internship. I did not come back to UCSF to do more research or training for my PhD. (2)
○ I did my internship after finishing graduate school (receiving my doctorate). (3)
○ I did my internship during graduate school, and I did not return to complete my PhD. (4)
○ Other (please describe): (5) _____

Q18 Please briefly describe this experience, including approximate time frame, to confirm that our records are accurate:

Q19 What was the career area of this full-time internship/temporary work experience?

○ Principal investigator in a research-intensive institution Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities... (1)

○ Research in industry: Discovery or preclinical researcher; manager of a research team or facility... (2)

○ Research staff in a research-intensive institution Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution... (3)

○ Combined research and teaching career Faculty at a liberal arts college or university whose job includes both research and major teaching responsibilities... (4)

○ Teaching-intensive careers in academia A primarily teaching faculty position in a research university, liberal arts college, community college... (5)

○ Science education for K-12 schools: Classroom teacher; curriculum developer; science specialist... (6)

○ Science education for non-scientists: Education or public outreach specialist such as at a science museum or scientific society... (7)

○ Clinical practice: Clinician such as genetics counselor, therapist, physician... (8)

○ Public health related careers: Public health program analyst or evaluator; epidemiologist; biostatistician; medical informaticist... (9)

○ Scientific/medical testing: Testing specialist in an environmental, public health, genetics, or forensic science setting (intelligence agencies, federal/state departments of justice); clinical diagnostician... (10)

○ Science writing: Science, medical, or technical writer or journalist; science editor; science publisher... (11)

○ Research administration: Research administrator in private or public research institutions, government or academia, including compliance officers, grants and contracts officers; dean or director of research programs... (12)

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○ Support of science-related products: Technical support specialist; field application specialist; product development scientist or engineer... (18)

- Drug/device approval and production: Regulatory affairs professional; quality control specialist... (19)
- Clinical research management: Clinical research project/trials manager or coordinator... (20)
- Other: (21) _____

Q20 How did this full-time internship/temporary work experience change or affect your career path and future career options?

Q21 Please indicate your agreement with the following statements:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
This internship was an important factor in what career path I decided to pursue post graduation. (1)	○	○	○	○	○
This internship gave me confidence in choosing my career path. (2)	○	○	○	○	○
This internship clarified my career goals. (3)	○	○	○	○	○

Q22 Did this full-time internship/temporary work experience increase, decrease or not change your interest in this career path?
❍ Increase (1)
❍ Decrease (2)
❍ No change (3)

Q23 What was most valuable about this full-time internship/temporary work experience?

Q24 As a result of participating in this full-time internship/temporary work experience, I feel more confident in my ability to:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
Secure a full-time job. (1)	❍	❍	❍	❍	❍
Find a career fit. (2)	❍	❍	❍	❍	❍
Achieve my career goal, whatever that turns out to be. (3)	❍	❍	❍	❍	❍

Q25 Please answer the following questions related to the ${lm://Field/2} of your part-time internship or part-time temporary work experiences.

Q26 Which of the following best describes the timing of this part-time internship/temporary work experience relative to your graduate career:
❍ I did my part-time internship or part-time temporary work experience during graduate school. (1)
❍ I did my part-time internship or part-time temporary work experience after finishing graduate school. (2)

Q27 Please briefly describe this experience, including approximate time frame, to confirm that our records are accurate:

Q28 What was the career area of this part-time internship/temporary work experience?

○ Principal investigator in a research-intensive institution Independent researcher at a medical school, private research institute, government lab or university with minimal teaching responsibilities... (1)

○ Research in industry: Discovery or preclinical researcher; manager of a research team or facility... (2)

○ Research staff in a research-intensive institution Staff scientist or researcher in academia or government, lab manager, director of a multi-user research facility in an academic institution... (3)

○ Combined research and teaching career Faculty at a liberal arts college or university whose job includes both research and major teaching responsibilities... (4)

○ Teaching-intensive careers in academia A primarily teaching faculty position in a research university, liberal arts college, community college... (5)

○ Science education for K-12 schools: Classroom teacher; curriculum developer; science specialist... (6)

○ Science education for non-scientists: Education or public outreach specialist such as at a science museum or scientific society... (7)

○ Clinical practice: Clinician such as genetics counselor, therapist, physician... (8)

○ Public health related careers: Public health program analyst or evaluator; epidemiologist; biostatistician; medical informaticist... (9)

○ Scientific/medical testing: Testing specialist in an environmental, public health, genetics, or forensic science setting (intelligence agencies, federal/state departments of justice); clinical diagnostician... (10)

○ Science writing: Science, medical, or technical writer or journalist; science editor; science publisher... (11)

○ Research administration: Research administrator in private or public research institutions, government or academia, including compliance officers, grants and contracts officers; dean or director of research programs... (12)

○ Science policy: Public affairs/government affairs staff at scientific societies, foundations, government entities, or think tanks... (13)

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○ Drug/device approval and production: Regulatory affairs professional; quality control specialist... (19)
○ Clinical research management: Clinical research project/trials manager or coordinator... (20)
○ Other: (21) _____

Q29 How did this part-time internship/temporary work experience change or affect your career path and future career options?

Q30 Please indicate your agreement with the following statements:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
This part-time internship/temporary work experience was an important factor in what career path I decided to pursue post graduation. (1)	○	○	○	○	○
This part-time internship/temporary work experience gave me confidence in choosing my career path. (2)	○	○	○	○	○
This internship clarified my career goals. (3)	○	○	○	○	○

Q31 Did this part-time internship/temporary work experience increase, decrease or not change your interest in this career path?
○ Increase (1)
○ Decrease (2)
○ No change (3)

Q32 What was most valuable about this part-time internship/temporary work experience?

Q33 As a result of participating in this part-time internship/temporary work experience, I feel more confident in my ability to:

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
Secure a full-time job. (1)	○	○	○	○	○
Find a career fit. (2)	○	○	○	○	○
Achieve my career goal, whatever that turns out to be. (3)	○	○	○	○	○

Display This Question:
   If Which of the following options best describes your internship or temporary work experiences (plea... I did not do any internships or temporary work experiences during or right after graduate school. Is Selected

Q34 Please list all the reasons why you did not do a full-time internship:

Display This Question:
   If Which of the following options best describes your internship or temporary work experiences (plea... I did not do any internships or temporary work experiences during or right after graduate school. Is Selected

Q35 Please describe any ways in which you think the GSICE program could have better helped you prepare for, find or get an internship:

Display This Question:
   If Which of the following options best describes your internship or temporary work experiences (plea... I did not do any internships or temporary work experiences during or right after graduate school. Is Selected

Q36 Even though you didn't go on an internship, did you find the time you spent in the GSICE program useful? Please elaborate:

Q37 Please use this space for any other comments you wish to share:

Text S7: Post-PhD Postdoc Survey

The following questions were sent out to former UCSF GSICE and UC Davis CETI students over text email. Answers were given in text, in reply to the emails.

1. Did you do a traditional research postdoc for one year (12 months) or more after you graduated from UCSF/UC Davis?
2. If you answered "yes" to question 1, was the postdoc in: (Academia or Industry)?
3. If you answered "yes" to question 1, at the time of deciding to do your postdoc were you still considering becoming an independent research scientist (in any context, academia, industry, etc.)? (Yes/No)
4. If you answered "No" to question 1, what did you do instead of a traditional research postdoc? (please describe, including career field and employer if applicable)
5. Do you want us to email you when the GSICE/CETI paper is published? (Yes/No)

Table S1: UCSF and UC Davis graduate programs eligible to participate

UCSF	UC Davis
Biological and Medical Informatics	Biomedical Engineering
Biomedical Sciences	Food Science
Bioengineering	Immunology*
Biophysics	Integrative Genetics and Genomics
Chemistry and Chemical Biology	Integrative Pathobiology*
Developmental and Stem Cell Biology	Molecular, Cellular, and Integrative Physiology*
Neuroscience	Neuroscience
Tetrad (Biochemistry & Molecular Biology, Cell Biology, Developmental Biology & Genetics)	Pharmacology and Toxicology
Oral and Craniofacial Sciences	Plant Biology
Pharmaceutical Sciences and Pharmacogenomics	

* Eligible programs added in 2015.

Table S2 – UCSF and UC Davis training cohort size and internship participation for each year

Cohort	Cohort Size	No. Students who went on internships	No. Internships *	No. Internships Post-Graduation	No. Part-time internships	% Cohort who went on internships
UCSF 2010	17	9	12	4	3	53%
UCSF 2011	18	10	10	5	0	56%
UCSF 2012	31	18	23	4	9	58%
UCSF 2013	32	11	11	3	3	34%
UCSF 2014	39	10	10	0	2	26%
UCSF 2015	35	5	5	1	0	14%
UC Davis 2014	26	7	7	0	1	27%
UC Davis 2015	17	7	7	2	2	41%

* Some students did more than one internship.