

SLCC Biotech Employee Survey for 2020-21

Start of Block: Introductory text

Q62 Biotechnology Employee Survey

What is this survey about?

The purpose of this survey is to learn about your experiences and education in the field of biotechnology. This survey is part of an evaluation of a National Science Foundation (NSF) grant.

What will be done with my responses?

Your responses will be kept confidential. Your responses will be averaged with the results from other employees and will be used to improve biotechnology education.

Do I have to complete this survey?

You can refuse to participate or withdraw from this evaluation at any time. The survey will take approximately 10 minutes. You will receive a \$5 Amazon gift card for participating. If you do not want to take part in the study, simply do not click continue and do not proceed to the next page.

What if I have questions?

If you have questions, complaints or concerns about this study, you can contact Dr. Amy Auletto, Research and Evaluation Associate at the Utah Education Policy Center, at amy.auletto@utah.edu. If you feel you have been harmed as a result of participation, please contact Dr. Auletto.

Institutional Review Board: Contact the Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Utah IRB may be reached by phone at (801) 581-3655 or by e-mail at irb@hsc.utah.edu. The Salt Lake Community College IRB may be reached at irb@slcc.edu.

Research Participant Advocate: You may also contact the Research Participant Advocate (RPA) by phone at (801) 581-3803 or by email at participant.advocate@hsc.utah.edu.

Consent

By selecting "Yes, I would like to participate" and responding to the questions in this online questionnaire, I confirm I have read the information in this consent form and have the opportunity to ask questions. I voluntarily agree to take part in this evaluation study.

Thank you for completing this survey!

- Yes, I would like to participate. (4)
- No, I would not like to participate. (5)

End of Block: Introductory text

Start of Block: Eligibility

Q59 Are you a laboratory analyst, technician, or specialist?

- Yes (1)
 - No (2)
-

Q57 Does your current job involve maintenance, preservation, modification, and/or testing of biological materials?

- Yes (1)
 - No (2)
-

Page Break

Display This Question:

If Are you a laboratory analyst, technician, or specialist? = No

And Does your current job involve maintenance, preservation, modification, and/or testing of biologic... = No

Q60 Given that your job does not have these responsibilities, the remainder of the questions will not apply to you. Thank you for your willingness to participate. We appreciate your time and interest.

This material is based upon work supported by the National Science Foundation under Grant No. 1601521. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Page Break

End of Block: Eligibility

Start of Block: Demographic Information



Q2 Please describe your race/ethnicity.

- African American/Black (1)
 - American Indian/Alaska Native (2)
 - Asian (3)
 - Hispanic or Latino/a (4)
 - Native Hawaiian/Pacific Islander (6)
 - White (7)
 - More than one race (10)
 - Unknown (9)
-

Q3 Sex

- Male (1)
 - Female (2)
 - Other or prefer not to say (3)
-
-

Q4 Age

- Under 20 (1)
 - 20-24 (2)
 - 25-29 (3)
 - 30-34 (4)
 - 35-39 (5)
 - 40 or older (6)
-

Q5 What is the highest level of education that any one of your **parents/guardians** have attained?

- Unknown (1)
- Did not graduate from high school (2)
- High school diploma (including GED or equivalent) (3)
- Some college credit, no degree or certification (4)
- Certificate of Proficiency/Vocational certificate (5)
- Associate's degree (for example: AAS, AA, AS) (6)
- Bachelor's degree (for example: BA, BS) (7)
- Graduate degree (for example: MA, MS, MBA, MD, DDS, JD, PhD) (8)

End of Block: Demographic Information

Start of Block: Educational history



Q6 What is the highest level of education **you** have completed?

- Did not graduate from high school (1)
 - High school diploma (including GED or equivalent) (2)
 - Some college credit, no degree or certification (3)
 - Certificate of Proficiency/Vocational certificate (4)
 - Associate's degree (for example: AAS, AA, AS) (5)
 - Bachelor's degree (for example: BA, BS) (6)
 - Graduate degree (for example: MA, MS, MBA, MD, DDS, JD, PhD) (7)
-

Q7 What year did you complete your highest degree or level of education?

▼ 1975 or earlier (1) ... 2020 (46)

Page Break

Display This Question:

If What is the highest level of education you have completed? = Some college credit, no degree or certification

Or What is the highest level of education you have completed? = Certificate of Proficiency/Vocational certificate

Or What is the highest level of education you have completed? = Associate's degree (for example: AAS, AA, AS)

Or What is the highest level of education you have completed? = Bachelor's degree (for example: BA, BS)

Or What is the highest level of education you have completed? = Graduate degree (for example: MA, MS, MBA, MD, DDS, JD, PhD)

Q8 What was (or is) your major area of study? Please mark all that apply.

- Biology (1)
- Chemistry (2)
- Biotechnology (3)
- Bio-medical Engineering (4)
- Medical Laboratory Science (5)
- Other science field (please specify) (6)

- Other non-science field (please specify) (7)

Page Break

Display This Question:

If What was (or is) your major area of study? Please mark all that apply. = Other non-science field (please specify)

And What was (or is) your major area of study? Please mark all that apply. != Biology

And What was (or is) your major area of study? Please mark all that apply. != Chemistry

And What was (or is) your major area of study? Please mark all that apply. != Biotechnology

And What was (or is) your major area of study? Please mark all that apply. != Bio-medical Engineering

And What was (or is) your major area of study? Please mark all that apply. != Medical Laboratory Science

And What was (or is) your major area of study? Please mark all that apply. != Other science field (please specify)

Q9 You indicated that your major area of study was a non-science field. Have you taken any classes or received any **certificates** in biotechnology or related fields?

No (1)

Yes (please describe): (2) _____

Page Break _____

Display This Question:

If What is the highest level of education you have completed? = Some college credit, no degree or certification

Or What is the highest level of education you have completed? = Certificate of Proficiency/Vocational certificate

Or What is the highest level of education you have completed? = Associate's degree (for example: AAS, AA, AS)

Or What is the highest level of education you have completed? = Bachelor's degree (for example: BA, BS)

Or What is the highest level of education you have completed? = Graduate degree (for example: MA, MS, MBA, MD, DDS, JD, PhD)

Q10 Where have you taken college courses toward your certificate(s)/degree(s)? Please check all that apply.

- Utah high school (1)
 - Utah College of Applied Technology (2)
 - Salt Lake Community College (3)
 - University of Utah (4)
 - Southern Utah University (5)
 - USU Eastern (6)
 - Utah State University (7)
 - Snow College (8)
 - Utah Valley University (9)
 - Weber State University (10)
 - Dixie State University (11)
 - Brigham Young University (12)
 - Westminster College (13)
 - Other (please specify) (14)
-

Display This Question:

If What is the highest level of education you have completed? = Associate's degree (for example: AAS, AA, AS)

And What is the highest level of education you have completed? = Certificate of Proficiency/Vocational certificate

Or What is the highest level of education you have completed? = Bachelor's degree (for example: BA, BS)

Or What is the highest level of education you have completed? = Graduate degree (for example: MA, MS, MBA, MD, DDS, JD, PhD)

Q11 Where did you earn your certificate(s)/degree(s)?

- Utah College of Applied Technology (1)
 - Salt Lake Community College (2)
 - University of Utah (3)
 - Southern Utah University (4)
 - USU Eastern (5)
 - Utah State University (6)
 - Snow College (7)
 - Utah Valley University (8)
 - Weber State University (9)
 - Dixie State University (10)
 - Brigham Young University (11)
 - Westminster College (12)
 - Other (please specify) (13)
-

Page Break

Q12 Are you currently working toward a certificate or degree?

- Yes, I am enrolled in at least one class right now (1)
- Yes, but I am not enrolled in classes right now (2)
- No, but I plan to in the future (3)
- No (4)

Page Break

Display This Question:

If Are you currently working toward a certificate or degree? = Yes, I am enrolled in at least one class right now

Or Are you currently working toward a certificate or degree? = Yes, but I am not enrolled in classes right now

Q13 What is the major area of study for the certificate or degree you are seeking?

- Biology (1)
- Chemistry (2)
- Biotechnology (3)
- Bio-medical Engineering (4)
- Medical Laboratory Science (5)
- Other science field (please specify) (6)

- Other non-science field (please specify) (7)

Page Break

Q14 To what extent do you agree or disagree that the following issues affected your education?

	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly agree (4)
Financial difficulties (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health or personal problems (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Courses conflicted with work schedule (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Courses conflicted with work responsibilities (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family responsibilities made it difficult to attend (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The coursework was too difficult (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The courses were not challenging enough (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Classes were not available when I needed them (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt out of place (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I lacked motivation to study and complete assignments (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Taking only a few courses at a time was slow and discouraging (10)

Difficulty with transportation (21)

Other (please specify) (11)

End of Block: Educational history

Start of Block: covid

Q42 Please select the statement that best describes your work environment during the COVID-19 pandemic.

- I have been required to attend work in person. (1)
 - I have primarily attended work in person by choice. (2)
 - I have spent time working both from home and in person. (5)
 - I have primarily worked from home by choice. (3)
 - I have been required to work from home. (4)
-

Q44 On average, how many hours a week have you been required to work during the COVID-19 pandemic?

- Fewer than 40 hours (1)
 - 40 hours (2)
 - 41-45 hours (3)
 - 46-50 hours (4)
 - 51-55 hours (5)
 - 56-60 hours (6)
 - More than 60 hours (7)
-

Q43 Rate your current level of agreement with the following statements about the COVID-19 pandemic.

	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly agree (4)
I have felt uncomfortable going into the office/lab in person. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been able to adequately do my job despite the challenges. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have experienced extenuating circumstances (e.g. childcare, caring for an elderly parent, immune-compromised situation) that made my work hard. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have felt supported by my company. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have had the necessary materials/equipment to do my job safely. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: covid

Start of Block: Work history

Q15 What company do you work for?

- ARUP Laboratories (3)
 - BioFire Diagnostics (1)
 - Nelson Laboratories (2)
 - Other (4) _____
-

Q16 When were you first employed by this company?

Q45 Month:

▼ January (13) ... December (24)

Q46 Year:

▼ 1975 or earlier (1) ... 2020 (46)

Q17 What is your current job title?

Q18 Are you a full-time or part-time employee?

- Full-time (1)
 - Part-time (2)
-

Q19 Please provide your current wage or salary as either an hourly **or** annual rate:

Q47 Hourly rate:

- \$7.50 or less (1)
 - \$7.51-\$15.00 (2)
 - \$15.01-\$22.50 (3)
 - \$22.51-\$30.00 (4)
 - \$30.01-\$37.50 (5)
 - More than \$37.50 (6)
-

Q48 Annual rate:

- \$1-\$15,000 (1)
 - \$15,001-\$30,000 (2)
 - \$30,001-\$45,000 (3)
 - \$45,001-\$60,000 (4)
 - \$60,001-\$75,000 (5)
 - More than \$75,000 (6)
-

Q20 Have you changed positions/been promoted since you joined this company?

- No (1)
- Yes (2)

Page Break

Display This Question:

If Have you changed positions/been promoted since you joined this company? = Yes

Q21 How many times has your job title changed within this company?

- One (1)
- Two (2)
- Three (3)
- Four (4)
- Five (5)
- Six or more times (6)

Page Break

Display This Question:

If Have you changed positions/been promoted since you joined this company? = Yes

Q22 Please provide your **first** job title at this company:

Display This Question:

If Have you changed positions/been promoted since you joined this company? = Yes

Q50 Please provide your **beginning** hourly wage **or** annual salary at this company:

Display This Question:

If Have you changed positions/been promoted since you joined this company? = Yes

Q52 Hourly rate:

- \$7.50 or less (1)
- \$7.51-\$15.00 (2)
- \$15.01-\$22.50 (3)
- \$22.51-\$30.00 (4)
- \$30.01-\$37.50 (5)
- More than \$37.50 (6)

Display This Question:

If Have you changed positions/been promoted since you joined this company? = Yes

Q53 Annual rate:

- \$1-\$15,000 (1)
 - \$15,001-\$30,000 (2)
 - \$30,001-\$45,000 (3)
 - \$45,001-\$60,000 (4)
 - \$60,001-\$75,000 (5)
 - More than \$75,000 (6)
-

Q23 Does your employer offer a tuition benefit to further your education?

- Yes (1)
 - No (2)
 - Not sure (3)
-

Page Break

Display This Question:

If Does your employer offer a tuition benefit to further your education? = Yes

Q24 Have you used the tuition benefit?

- Yes (1)
- No (2)
- No, but I plan to in the future (3)

Display This Question:

If Have you used the tuition benefit? = Yes

Q25 What portion of your tuition this year will this benefit cover?

- A particular percentage: (1)

- A particular dollar amount: (2)

- Other (please specify) (3) _____
- Not sure (4)

Page Break _____

Q26 Do you see yourself staying in this company for 2-3 years?

Yes (1)

No (2)

Not sure (3)

Q27 Please indicate how much you agree or disagree with the following statements about your current job.

	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly agree (4)
This is the type of job I've always wanted. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm looking for a higher paying position in this field. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm looking for a higher paying position in a different field. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to be promoted within my current company. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not like the work in my current position. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel unprepared to do the tasks required by this job. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have health problems that will affect my ability to remain in this position. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have caregiving responsibilities that will affect my ability to remain in this position. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor does not explain assignments thoroughly. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor does not provide feedback. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I'm not qualified for any other type of job. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, please list. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Work history

Start of Block: Workplace environment

Q28 At your current job, how satisfied are you with each of the following?

	Very dissatisfied (1)	Dissatisfied (2)	Satisfied (3)	Very satisfied (4)
Being able to see the results of the work I do (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The opportunities for advancement (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being able to take pride in a job well done (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being able to do something worthwhile (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The chance to make use of my skills and abilities (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The feeling of accomplishment I get from the job (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Q29 For each of the following, please indicate how relevant the knowledge or skill is to your current position and the extent to which your education prepared you to have that knowledge or skill.

	Relevance: The skill/knowledge is <u>relevant</u> to my current position:	Preparation: To what extent <u>did your education prepare you</u> to use this skill at work?
	Yes (1)	No (2) Not sure (3)

Understanding of how biotechnology can both benefit and harm the global population (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))
Ability to genetically alter a living organism (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))
Ability to purify a protein (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))
Ability to analyze DNA for specific traits (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))
Ability to complete calculations and measurements related to the field of biotechnology (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))
Ability to complete basic microbiology processes (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))
Ability to conduct reactions to manipulate DNA (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))
Ability to demonstrate aseptic technique (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4))

Page Break

Q30 For each of the following, please indicate how relevant the knowledge or skill is to your current position and the extent to which your education prepared you to have that knowledge or skill.

	Relevance: The skill/knowledge is <u>relevant</u> to my current position:			Preparation: To what extent <u>did your education prepare you</u> to use this skill at work?
	Yes (1)	No (2)	Not sure (3)	
Ability to apply the federally mandated Quality System (QS) Regulation/Medical Device Good Manufacturing Practices (21cfr820) to the manufacturing process (Q30_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to manufacture a product according to federal regulations and guidelines (Q30_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to apply continuous improvement and lean manufacturing concepts to the manufacturing process (Q30_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to work in a manufacturing lab (Q30_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to work in a research lab (Q30_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)

Page Break

Q31 For each of the following, please indicate how relevant the knowledge or skill is to your current position and the extent to which your education prepared you to have that knowledge or skill.

	Relevance: The skill/knowledge is <u>relevant</u> to my current position:			Preparation: To what extent <u>did your education prepare you</u> to use this skill at work?
	Yes (1)	No (2)	Not sure (3)	
Understanding of the four levels of protein structure (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to express a protein of interest (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to separate molecules using chromatography (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to separate proteins using SDS-PAGE (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to determine the turnover rate of any enzyme in particular conditions (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to maintain a cell line (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to use quantitative PCR to analyze samples (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)
Ability to perform targeted mutagenesis (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	▼ Not at all (1 ... Very much (4)

Page Break

Q32 Please indicate your agreement regarding the following statements:

	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly agree (4)
My education prepared me well for this job. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to learn new job-related skills. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to move up within this company. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am good at solving problems. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would need more training or education to move up within this company. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Q33 What aspects of your education best prepared you for your job?

Q34 What skills have you learned or developed as a result of your employment?

Q35 What skills would you have liked to have had, but didn't, prior to employment?

Q36 What kind of training would help you move up within this company?

Q37 Is there anything else you think is important for us to know that was not covered in this survey?

Q38

Thank you for completing the survey! As a token of our appreciation for your feedback, we are offering a \$25 Amazon gift card. To receive this electronic gift card, you will be redirected to a secure website hosted by Salt Lake Community College where you will be asked to provide your email address. The personal information provided on this website will:

ONLY be used for the purposes of providing you with the electronic gift card

NOT be shared with any person or party who is not directly involved with providing you with your gift card

NOT be connected to your survey responses in any way

Thank you for taking the time to complete this survey.

If you would like to receive the electronic gift card, please select Yes below.

If you would like to forego the gift card and submit your survey, please select No below.

This material is based upon work supported by the National Science Foundation under Grant No. 1601521. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

- No, I would prefer not to provide my email address. (1)
- Yes, I would like to provide my email address and receive a gift card. (2)

End of Block: Workplace environment
