

A. COVER PAGE

Project Title: CSULB Building Biomedical Research Program: Student Training Core	
Grant Number: 5TL4GM118980-05	Project/Grant Period: 09/26/2014 - 06/30/2019
Reporting Period: 07/01/2017 - 06/30/2018	Requested Budget Period: 07/01/2018 - 06/30/2019
Report Term Frequency: Annual	Date Submitted: 04/06/2018
Program Director/Principal Investigator Information: LAURA KINGSFORD , BS PHD Phone number: (562) 985-8515 Email: Laura.Kingsford@csulb.edu	Recipient Organization: CALIFORNIA STATE UNIVERSITY LONG BEACH CALIFORNIA STATE UNIVERSITY LONG BEACH 1250 Bellflower Blvd LONG BEACH, CA 908400004 DUNS: 006199129 EIN: 1956106694A1 RECIPIENT ID:
Change of Contact PD/PI: No	
Administrative Official: MARIA E REYES 1250 Bellflower Blvd Long Beach, CA 90840 Phone number: 562-985-8051 Email: maria.reyes@csulb.edu	Signing Official: MARIA E REYES 1250 Bellflower Blvd Long Beach, CA 90840 Phone number: 562-985-8051 Email: maria.reyes@csulb.edu
Human Subjects: Yes HS Exempt: No Exemption Number: Phase III Clinical Trial:	Vertebrate Animals: No
hESC: No	Inventions/Patents: Not Applicable

B. ACCOMPLISHMENTS

B.1 WHAT ARE THE MAJOR GOALS OF THE PROJECT?

Aim 1: Establish a broad-reaching and culturally competent undergraduate research training program that builds on best practices including:

- a)substantial financial and academic support;
- b)intensive mentored research lab experiences that begin early and expand as the URS progress in their academic program;
- c)intimate small-group research training activities as part of a learning community (LC).

Aim 2: Address the barriers our underrepresented student (URS) experience using innovative, evidenced-based best practices including:

- a)interventions designed to strengthen scientific efficacy, interest, and identity, which increase URS persistence in the research career pipeline;
- b)build awareness and utilization of cultural capital to increase the relevance of science;
- c)expand the mentoring network and engage families in the URS' participation, resulting in a culturally-congruent science identity.

Measurable Objectives for Year 3:

1)Outreach and Recruitment

a.Increase student awareness of multi-disciplinary biomedical research careers and the opportunities offered by BUILD and other NIH research training programs on campus. Outreach activities were conducted between November 2016 and February 2017 (100% completed).

b.Recruit students who will be competitive for a doctoral program and contribute various aspects of diversity for the future biomedical research workforce. Recruitment activities were conducted between December 2016 and April 2017 (100% completed).

2)Trainee Selection

a.Revise applications for Lower Division (LD) and Upper Division (UD) Programs before the beginning of Spring Semester. The Applications were made available to students by December 2016 (100% completed).

b.Update selection rubrics for LD and UD program applications by application deadlines. Rubrics were updated in February 2017 (100% completed).

c.Conduct application selection – Review applications, interview applicants, and discuss and select applicants by April 30, 2017. Upper Division applications have been reviewed and interviews have been conducted by March 24, 2017. Acceptance, waitlist, and rejection notices have been sent. Lower Division applications have also been reviewed and interviews conducted. Selections will be made by April 30, 2017. (90% completed).

3)Training Program Development and Implementation

a.Obtain approval for UNIV 295, 395, and 495 BUILD Learning Community courses by February 2017 and have the courses be in the 2017-2018 course catalog (100% completed)

b.Streamline the Learning Community (LC) Seminar curriculum to strengthen student scientific efficacy and professional development tailored for the Associate and Scholars levels (100% completed)

c.Finalize and implement Year 2 Scholars LC Curriculum for Fall 2016 (100% completed) and Spring 2017 (90% completed)

d.Introduce more workshops addressing psychosocial skill development for Associates and Scholars in Summer 2016 with booster sessions in Fall 2016 and Spring 2017 (100% completed)

4)Personnel

a.Hire and train Graduate Assistants for Lower and Upper Division Programs

i.Upper Division Program GAs

1.Hire and train the first six UD GAs by May 31, 2016 (100% completed).

2.Hire and train the second six UD GAs by May 31, 2017 (ongoing).

ii.Lower Division Program GAs: Hire and train by July 10, 2016 (100% completed).

b.Changed Learning Community Coordinator position to Learning Community Specialist by adding more curriculum development responsibilities and hire by October 2016 (100% completed).

B.1.a Have the major goals changed since the initial competing award or previous report?

Yes

Revised goals:

Aim 1: Establish a broad-reaching and culturally competent undergraduate research training program that builds on best practices including:

- a)substantial financial and academic support;
- b)intensive mentored research lab experiences that begin early and expand as the URS progress in their academic program;
- c)intimate small-group research training activities as part of a learning community (LC).

Aim 2: Address the barriers our underrepresented student (URS) experience using innovative, evidenced-based best practices including:

- a)interventions designed to strengthen scientific efficacy, interest, and identity, which increase URS persistence in the research career pipeline;
- b)build awareness and utilization of cultural capital to increase the relevance of science;
- c)expand the mentoring network and engage families in the URS' participation, resulting in a culturally-congruent science identity.

Measurable Objectives for Year 4:

1) Outreach and Recruitment

a. Increase student awareness of multi-disciplinary biomedical research careers and the opportunities offered by BUILD and other NIH research training programs on campus. Outreach activities were conducted between September 2017 and March 2018 (100% completed).

b. Recruit students who will be competitive for a doctoral program and contribute various aspects of diversity for the future biomedical research workforce. Recruitment activities were conducted between November 2017 and March 2018 (100% completed).

2) Trainee Selection

a. Revise applications for Lower Division (LD) and Upper Division (UD) Programs before the beginning of Spring Semester. The Applications were made available to students by November 2017 (100% completed).

b. Update selection rubrics for LD and UD program applications by application deadlines. Rubrics were updated in February 2018 (100% completed).

c. Conduct application selection – Review applications, interview applicants, and discuss and select applicants by April 30, 2018. Upper Division applications have been reviewed and interviews have been conducted by March 2018. Selections have not yet been completed, therefore, acceptance, waitlist, and rejection notices have not yet been sent. Lower Division applications are just now being reviewed with interviews to be conducted in April 2018. Selections will be made by April 30, 2018. (50% completed).

3) Training Program Development and Implementation

a. Obtain approval for UNIV 295, 395, and 495 BUILD Learning Community courses by February 2018 and have the courses be in the 2018-2019 course catalog (100% completed)

b. Streamline the Learning Community (LC) Seminar curriculum to strengthen student scientific efficacy and professional development tailored for the Associate, Scholars, and Fellows levels (100% completed)

c. Finalize and implement Scholars LC Curriculum for Fall 2017 (100% completed) and Spring 2018 (70% completed)

d. Introduce more workshops addressing psychosocial skill development for Associates, Scholars, and Fellows in Summer 2017 with booster sessions in Fall 2017 and Spring 2018 (100% completed)

4) Personnel

a. Hire and train Graduate Assistants for Lower and Upper Division Programs

i. Upper Division Program GAs

1. Hire and train the first six UD GAs by May 31, 2017 (100% completed).

2. Hire and train the second six UD GAs by May 31, 2018 (ongoing).

ii. Lower Division Program GAs: Hire and train by July 10, 2017 (100% completed).

b. Add four additional training directors to work with Associates, Scholars, and Fellows by August 2017 (100% completed).

B.2 WHAT WAS ACCOMPLISHED UNDER THESE GOALS?

File uploaded: CSULB_BUILD_ST_B2_Y4.pdf

B.3 COMPETITIVE REVISIONS/ADMINISTRATIVE SUPPLEMENTS

For this reporting period, is there one or more Revision/Supplement associated with this award for which reporting is required?

No

B.4 WHAT OPPORTUNITIES FOR TRAINING AND PROFESSIONAL DEVELOPMENT HAS THE PROJECT PROVIDED?

File uploaded: CSULB_BUILD_ST_B4_Y4 Report & Tables 2-5c-8d.pdf

B.5 HOW HAVE THE RESULTS BEEN DISSEMINATED TO COMMUNITIES OF INTEREST?

During Year 4, we had two members of our BUILD team present preliminary results on our student training program and graduate assistant (near-peer) mentoring program at the 10th Annual Understanding Interventions that Broaden Participation in Science Careers Conference in Baltimore, MD in March 2018. The citations for these presentations are listed below.

Abeywardana, S., & Priede, A. (2018). Incorporating graduate assistants as near-peer-mentors in undergraduate research and mentoring programs: A case study of the CSULB BUILD program. Presented at the 10th Annual Understanding Interventions that Broaden Participation in Science Careers Conference. Baltimore, MD.

Priede, A., & Sawatsky, M. (2018). The effects of an undergraduate research and mentoring intervention at a teaching university on faculty identity, mentoring skills, and campus connectedness. Presented at the 10th Annual Understanding Interventions that Broaden Participation in Science Careers Conference. Baltimore, MD.

B.6 WHAT DO YOU PLAN TO DO DURING THE NEXT REPORTING PERIOD TO ACCOMPLISH THE GOALS?**I. Year 4 Program Implementation**

For the Year 5 (2018-2019) budget period, much of the student training program will remain the same, with continued implementation of the various training programs described in section B.2 in Year 4. Given the success of our Scholars 3 Program, with 92% of trainees applying to graduate school this year, we will provide continued support and training to Year 2 Scholars who will not graduate this year as Year 3 Scholars. Year 3 support will ensure that these Scholars have the resources needed to successfully apply to graduate programs in Fall 2018. Only Scholars who have made satisfactory progress during the last two years and have a reasonable chance of being accepted into a Ph.D. program by Spring 2019 will be offered the Year 3 support. Our pilot Fellows Program was also a huge success this year with 100% of our Fellows (n=3) applying and being accepted into graduate school. Given the success of this program, we plan to provide training and salary support to a new cohort of up to 10 Fellows who are graduating seniors and who have already been engaged in research training and will be applying to doctoral programs in Fall 2018. The Year 3 Scholars are supported by the TL4 grant and the Fellows by the RL5 grant. A brief description for each of these programs is provided in section B.2.

II. Student Tracking

The tracking of students who have graduated or left the BUILD program has been a major point of emphasis this year. To date, we have 218 students who have participated in BUILD since the inception of the student training program in 2015. We have made a concerted effort in Year 4 to follow-up with each of these students to get updated information on whether they have continued on the research career path, if they have graduated with a BHS/BSE degree, and if they have applied for graduate school. We have also reached out to our first cohort of BUILD students that are currently in graduate school (n=10) to determine how they are adjusting to their new program. These tracking efforts have included the training directors for each college contacting that student's BUILD faculty mentor to reach out to these students or provide updated information themselves if the students have not responded to our initial inquiry for follow-up data. We also require our students to sign up for LinkedIn and an eRA commons number when they join BUILD which has helped us collect some data for students we cannot reach. These tracking efforts have been very successful this year as we have follow-up data for 89% of our students (n=193), which includes all of our Year 2 Scholars from last year. We have 25 students remaining that we are currently tracking and largely consist of Associates who did not continue in our Scholars Program. We will continue these tracking efforts into Year 5.

B.2 What was accomplished under these goals?

I. Student Training Programs

Innovative programs honoring underrepresented groups' (URGs) life contexts are critical to engage students in behavioral health sciences (BHS) and biomedical sciences and engineering (BSE) research career paths. The CSULB BUILD student research training program was designed to address several barriers to higher education (e.g., lack of institutional diversity, lack of family/academic role models or support, socioeconomic adversity) by cultivating students' culturally congruent science identity and sense of belonging in the research environment. Development of students' science identity and sense of belonging in research are fostered in the CSULB BUILD program via continuous research exposure, academic support, supplemental instruction, and multi-tiered mentoring that integrates family support systems and students' cultural capital. In addition, BUILD activities use active learning approaches and project-based learning that is meaningful to the students' values and relevant to their respective communities.

The Student Training (ST) Core developed specific learning objectives that address five major areas of student development including (1) Research preparation, (2) Scientific communication, (3) Professional development, (4) Degree preparation, (5) Productive persistence and culturally congruent scientific identity. The training activities have been implemented at three different levels by training directors in the RE and ST Cores, respectively: (Lower Division) **Associate Program** for sophomores (funded by RL5) and entry level juniors, (Upper Division) **Scholars Program** for juniors and seniors (funded by TL4), and a new (Upper Division) Fellows Program for seniors (funded by TL4). As illustrated in **Figure 1**, student trainees have the opportunity to move through Lower and Upper Division training curricula that emphasize continuous research training from the sophomore to senior year. *Altogether, our group of sophomores, juniors, seniors, and recent CSULB graduates equates to 218 BUILD student trainees since the inception of our student research training program.*

Below we describe the trainee characteristics, retention, outreach and selection of our Associates, Scholars, and Fellows Programs. However, details of the training activities and outcomes of the Associates and Fellows Programs are reported in the RL5 report.

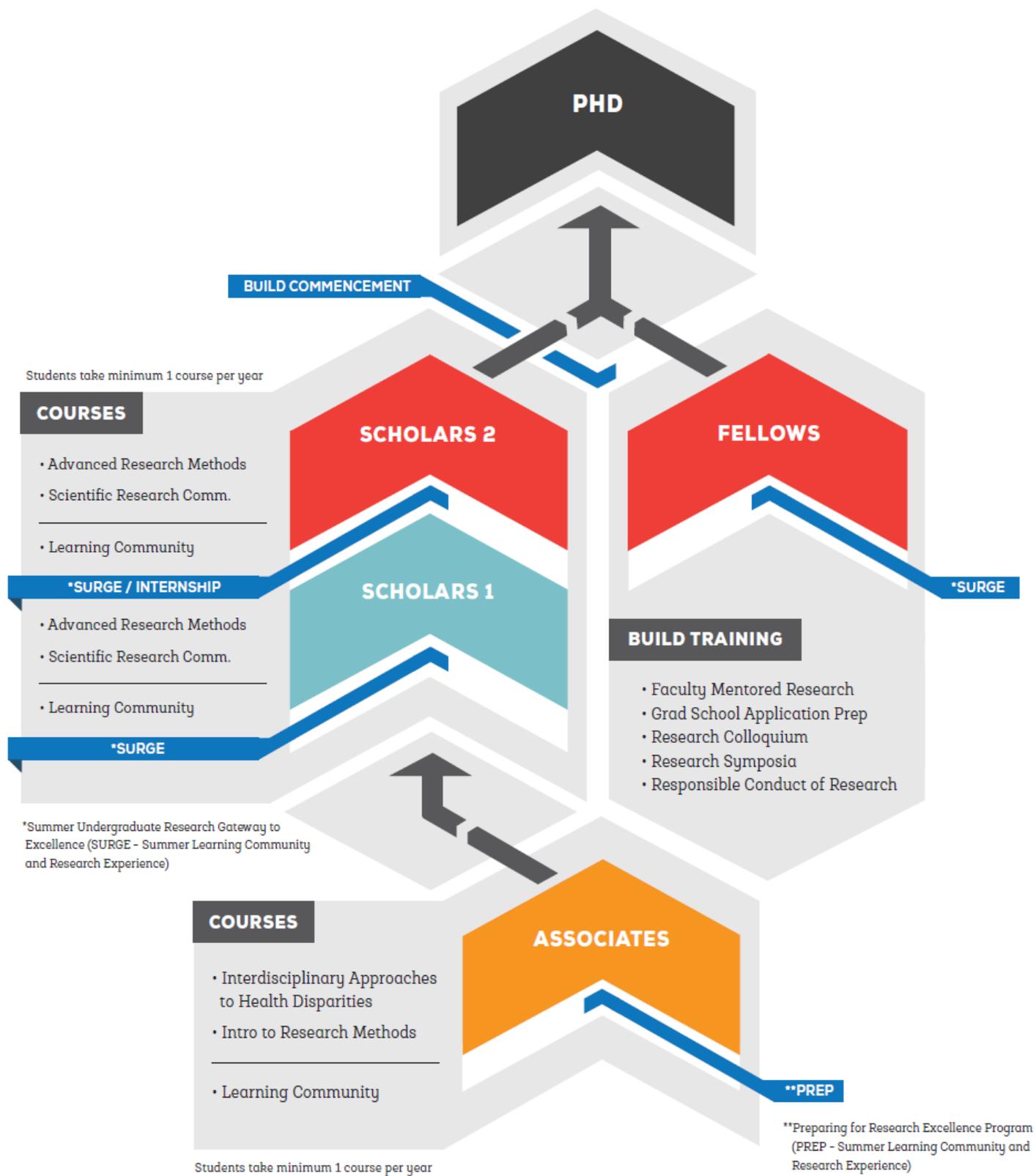
A. Trainees

BUILD trainees represent four colleges on our campus – COE (Engineering), CHHS (Health & Human Services), CLA (Liberal Arts), and CNSM (Natural Sciences & Mathematics) – due to their diversity of college majors/departments representing BHS/BSE research. Below is the breakdown of trainees by college for the entire cohort in Year 4 (see **Table 1**). For Associates we filled 54% of our 48 targeted slots, which is lower than the 67% from last year. For Year 1 Scholars we filled 91% of our 54 targeted slots, which is higher than the 83% from last year. We piloted our Fellows program for the first time with 3 trainee slots. Across these different programs, students are relatively more balanced across the four colleges than in previous years with the exception of our Year 1 Scholars, who are mostly from CNSM this year (47%).

Table 1. Number of Participating BUILD Trainees by College in Year 4

	COE	CHHS	CLA	CNSM	Total
Associates (RL5)	10	6	5	5	26
Year 1 Scholars (TL4)	9	8	9	23	49
Year 2 Scholars (TL4)	12	3	15	10	40
Year 3 Scholars (TL4)	2	2	1	7	12
Fellows (RL5)	0	2	1	0	3
College Total	33	21	31	45	130
Percentage	25%	16%	24%	35%	100%

Figure 1. BUILD Student Research Training Model



The primary aim of these student research training programs has been to engage traditionally underrepresented groups [first generation-educated racial and ethnic minorities (e.g., Latino, African American, Pacific Islander, Native Alaskans and Hawaiians, and Native American), people with disabilities, and those from disadvantaged backgrounds] in health-related research careers through their participation in different research activities and curricula throughout their college experience. In year 4, we have 130 BUILD trainees (26 Associates, 49 Year 1 Scholars, 40 Year 2 Scholars, 12 Year 3 Scholars, and 3 Fellows). Approximately one-third (34%, $n=44$) of our trainees are first generation-educated (35% for Associates, 24% for Year 1 Scholars, 43% for Year 2 Scholars, 71% for Year 3 Scholars, and 50% for Fellows). Another three-fourths (74%, $n=96$) are low-income (i.e., eligible for financial aid; 69% for Associates, 69% for Year 1 Scholars, 80% for Year 2 Scholars, 75% for Year 3 Scholars, and 100% for Fellows), which is higher than the percent of low-income undergraduate students at CSULB (50%; CSULB campus data, 2015). Our trainees also come from ethnically diverse backgrounds: 39% Hispanic/Latino, 31% Asian American, 10% African-American, 6% from more than one race, and 12% white (see **Table 2**). This is representative of the ethnic diversity of our campus' undergraduate student population: 39% Hispanic/Latino, 23% Asian American, 4% African-American, 5% from more than one race, and 19% white (CSULB campus data, 2015). In terms of gender, approximately two-thirds (65%, $n=84$) of our trainees are women (62% for Associates, 65% for Year 1 Scholars, 63% for Year 2 Scholars, 67% for Year 3 Scholars, and 100% for Fellows), which is higher than the gender distribution of our campus' undergraduate students: 56% women, 44% men (CSULB campus data, 2015).

Table 2. Ethnic/Racial distribution for BUILD trainees in Year 4

	African American /Black	American Indian/ Alaska Native	Asian American	Hispanic/Latino(a)	White	More than 1 race	Unknown /Not Reported	Total
Associates	2	0	12	9	2	0	1	26
Year 1 Scholars	6	0	15	19	9	0	0	49
Year 2 Scholars	2	0	10	16	5	6	1	40
Year 3 Scholars	2	0	3	6	0	1	0	12
Fellows	1	0	0	1	0	1	0	3
Eth/Race Tot	13	0	40	51	16	8	2	130
Percentage	10%	0%	31%	39%	12%	6%	2%	100%

B. Implementation of the Training Program

The key components of the BUILD Associates, Scholars, and Fellows programs are a year-round Learning Community (LC) seminar and faculty-mentored research training, as well as participation in the BUILD Research Colloquium, research courses, Graduate Record Examination (GRE) workshops, and family connection events. These components are supplemented by substantial financial (i.e., tuition, stipend, funds for research supplies and conference travel) and academic support (e.g., priority registration, in-house writing specialist, and in-house education counselor). The training goals of the student research programs are for students to: (a) acquire basic and advanced research methods and statistical skills via required coursework and mentored research experiences, (b) learn about the current directions and cutting-edge BHS/BSE research, (c) develop and conduct independent research, (d) learn to disseminate research findings, and (e) develop a culturally congruent science identity. These programs, along with our newly created BUILD Fellows Program, are described below. Summaries of the Associate & Fellow training activities and outcomes are presented in the RL5 report, while the Scholars training activities and outcomes are presented in TL4 Section B.4.

Associates Program. Our Associates program (RL5-funded) consists of a 2-week summer program and a two-semester Learning Community seminar for sophomores that focus on engaging students in research and preparing them for different research career options. Students first participate in a 2-week Preparing for Research Excellence Program (PREP) over the summer that focuses on orienting students to BUILD; introducing them to different research methodologies, the research process and professional research etiquette; coordinating required research safety training; and providing research ethics training. They then enroll in a 1-unit Learning Community (LC) Seminar in the fall and spring semesters that focuses on research writing, scientific communication, professional development topics (e.g., working with your research mentor, balancing academics with research responsibilities), finding career research resources in their discipline of interest, and preparing their application materials for the BUILD upper division Scholars Program should they choose to continue in the program. Most importantly, students also work with their faculty research mentor approximately 15 hours/week where they are introduced to literature reviews and hands-on research.

Scholars Program. Our Scholars program (TL4-funded) is a two-year program that focuses on preparing juniors (Year 1 Scholars) and seniors (Year 2 Scholars) for graduate study in BHS/BSE research and research careers. This program begins with a mandatory 8-week summer research training program, named Summer Undergraduate Research Gateway to Excellence (SURGE), in their first year in the program and scholars are then required to apply for an off-campus summer research internship at a doctoral-granting institution in their second year. Those that are not accepted or are unable to attend off-campus summer programs participate in an on-campus, SURGE 2 learning community and continue their research training with their CSULB mentor. All Scholars participate in faculty-mentored research and a Learning Community (LC) in the fall and spring semesters of both years. The LC focuses on supporting students' development of an independent research project, scientific communication, professional development (e.g., topics on professional networking, time management/stress management skills, use of cultural assets, developing a culturally congruent science identity), and preparation of application materials for summer internship programs (year 1) and graduate school (year 2). Specific areas of emphasis in faculty and graduate assistant-led training and assignments include preparing statements of purpose, curriculum vitae, individual development plans, and preparing for the GRE. During Year 4, we had 24 Year 2 Scholars graduating from CSULB in May 2017. Additionally, 14 Year 2 Scholars informed us that they were postponing graduation for one to two more semesters to continue their studies and prepare for graduate school applications. In order to support these students, we created a new competitive **Scholars 3 Program** (Year 3 Scholars; TL4-funded), where Year 2 Scholars who are delaying graduation can apply to be paired with a BUILD faculty training director for this one-semester program that helps them prepare and submit their graduate school applications during the Fall semester. Twelve out of 14 eligible students applied and participated in this program in Fall 2017. Outcomes for the Scholars 3 Program are presented in TL4 Section B.4.

Fellows Program. In Year 4 we created a one-year pilot Fellows Program (RL5-funded) that focuses on preparing a small group of seniors for graduate study in BHS/BSE research. To be selected, students must have two semesters of prior directed research experience with a faculty mentor (during their junior year) who would continue to provide research mentoring during the students' senior year and a minimum GPA of 3.2. Selected students participate in the 8-week summer SURGE program (described above) that begins in the summer before their senior year and provides GRE training, field trips to the campuses of our R1 partner institutions, and research ethics training. Students also participate in 30 hours/week of summer research with their faculty research mentor. During the fall and spring semesters of their senior year, students participate in the Year 2 Scholars LC that focuses on developing an individual development plan and preparing their applications for graduate school, while still engaging in 15 hours/week of research with their faculty mentor. Outcomes are presented in the RL5 report.

C. Trainee Retention and Support

Trainee retention has been high in Year 4: 96% for Associates, 96% for Year 1 Scholars, 98% for Year 2 Scholars, 100% for Year 3 Scholars, 100% for Fellows (defined as percentage of trainees that left during 2017-2018 academic year). One student left the Associates Program to concentrate on their grades due to poor academic performance. Two students left the Year 1 Scholars Program – one due to financial difficulties and another due to poor grades. One student left the Year 2 Scholars Program due to changes in their career goals.

A small number of Associates and Scholars experience a decline in their academic performance before they begin or while they are in the BUILD program. To support these students' academic progress, **we made a change in our training policy in Year 4 to monitor new incoming BUILD students' grades** based on their academic performance during the spring semester prior to starting the BUILD program. During the application process (in March of every academic year), we do not have access to students' spring semester grades until after they have been selected for BUILD. If we identify any of these new trainees with a spring term G.P.A. below 3.0 or a course grade of C or below in any of their major's core courses prior to beginning BUILD, they receive additional academic support. The BUILD training directors meet with these students individually to assess the severity of the situation and to help them utilize available campus resources for tutoring, advising, and other types of academic support as well as counseling support. We continue to monitor these students' academic progress during the fall semester by asking their course instructors for their midterm course grade and for suggestions for improving their performance in class. We also require these students to meet with their instructors to become acquainted with them and seek advice for studying. This policy for academic support is applied throughout trainees' participation in BUILD as needed. Additionally, **we have implemented a new series of stress and time management workshops in Year 4 that students are required to participate in as part of their LC**. We are currently evaluating the effectiveness and trainee satisfaction with these workshops. Preliminary findings are presented below in section E.

Due to university policy, some students who struggle academically lose the privilege of priority registration that is given to all trainees beginning in the spring semester prior to starting BUILD to aid them with enrolling in the required courses for their research training. Trainees who do not show significant academic progress while in BUILD may lose their funding support. In this scenario, they are permitted to continue participating in the program albeit without funding as long as their faculty mentors are willing to continue working with them.

D. Formalizing the BUILD Learning Community Seminars

During Year 3, the standard course outlines of the Associate (UNIV 295) and Scholars (UNIV 395 and 495) Learning Community (LC) Seminars were reviewed and approved by the CSULB's Education Policy and Curriculum Committee to formalize the 1-unit course offerings. During Year 4, a separate section of the Scholars LC was created and implemented for the Year 3 Scholars for fall 2017, while Fellows participated in the LC with the Year 2 Scholars throughout the academic year (fall 2017 & spring 2018).

E. Evaluation and Dissemination

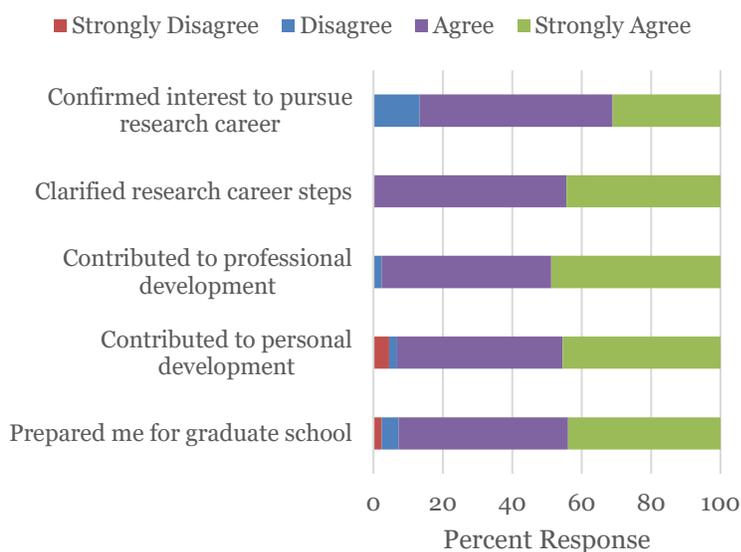
Evaluation was conducted for summer programs for Associates (PREP), Year 1 Scholars & Fellows (SURGE1), and Year 2 Scholars (SURGE2), as well as the Learning Community Seminars at the end of fall 2017 term. A brief summary of the cumulative evaluation findings of the Scholars Program activities (SURGE & LC) is provided below.

SURGE (Summer) & Learning Community (Academic Year). We offered two summer seminars in Year 4: SURGE 1 for the entering Year 1 Scholars and SURGE 2 for the continuing Year 2 Scholars who were not placed in an off-campus summer research experience.

We also offered three LCs during the academic year in Year 4. Year 1 Scholars enrolled in a 1-unit course called UNIV 395 (fall and spring semesters) and Year 2 Scholars enrolled in a 1-unit course called UNIV 495 (fall and spring semesters). In addition, Year 3 Scholars enrolled in UNIV 495 in the fall 2017 semester. UNIV 395 focused on preparing Year 1 Scholars for summer internship applications that were due in winter and spring, whereas UNIV 495 focused on graduate school applications, research presentations and report writing. Both courses also included two research colloquium talks, which were followed by Q&A time with the speaker. During Year 4, a series of stress and time management workshops were designed and tailored to address stressors that Scholars reported experiencing the previous year. Scholars participated in these interactive workshops during summer SURGE and the LC that focused on teaching relaxation (i.e., diaphragmatic breathing) and coping skills (i.e., stress awareness, time management, assertive communication, social support, modifying negative thoughts, overcoming adversity) to manage stress. Many of these workshops included take-home assignments that required Scholars to practice these relaxation and coping skills throughout the week and report on their experiences. These topics and assignments are based on empirically-based stress management interventions implemented by Dr. Guido Urizar (BUILD PI) in community health settings that he has shown to reduce physiological (e.g., cortisol) and perceived stress levels in a number of populations. He has also adapted these materials for undergraduate students taking his Psychology of Stress course at CSULB.

A large percentage of Scholars (87%) reported that the activities and experiences they had as part of both summer SURGE programs and LC courses confirmed their interest to pursue a research career with 100% reporting that it helped to clarify the steps they have to take to pursue a research career (see **Figure 2**). Specifically, Scholars cited the activities of developing their curriculum vitae (CV), statement of purpose (SOP), and presenting their research in front of an audience as being particularly useful in increasing their confidence to understand the skills needed to succeed in a research career. **“I appreciate BUILD so much as it has changed my life. It has helped prepare me for graduate school in so many different ways through making the CV & SOP and many other things. BUILD has set me ahead of others. It has taught me things I would have never known being a first generation college student.”** A large percentage of Scholars also reported that their experiences in BUILD helped to improve their professional (98%) and personal development (93%; Figure 2). Specifically, they mentioned personal growth in being able to engage in professional networking,

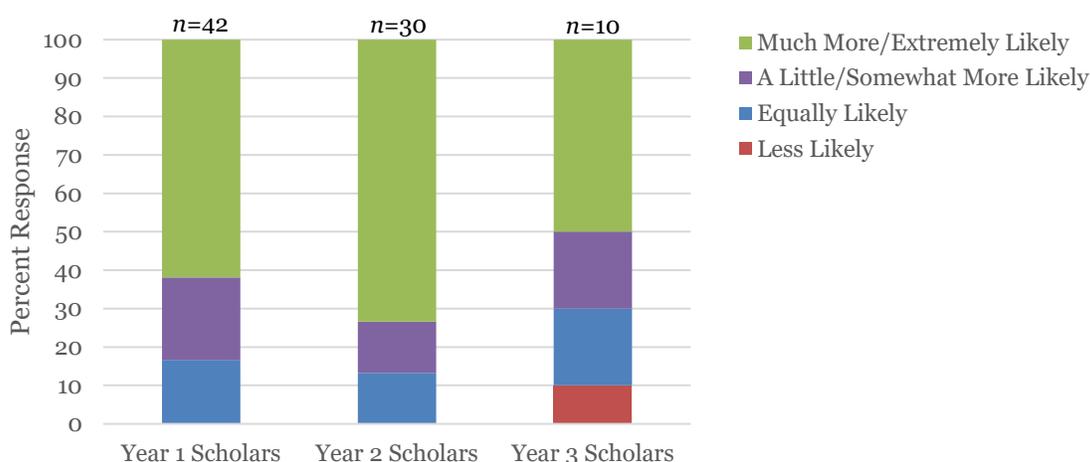
Figure 2. Ratings on Effectiveness of Learning Community



developing a strong support system with their faculty mentor and peers, and gaining a greater sense of belonging as a scientist. “Personally, it has fostered an environment where I feel a great sense of belonging & has allowed me to develop my skills & confidence as an individual & future scientist.” Another Scholar stated, **“BUILD helped me recognize there is a larger group of people that want to get higher education and that I have a community to rely on.”** “It taught me how to network, which I had no idea prior... gave me more confidence in presenting research especially since I am a minority student.”

A large percentage of Scholars (93%) also reported that their experiences in BUILD helped to prepare them for graduate school (Figure 2). Specifically, they highlighted the guidance and support they receive from the BUILD training directors and graduate assistants as motivating forces to help them navigate through the graduate school application process. **“The professional development I received, training director guidance and support, and friendship with another BUILD colleague helped motivate me and facilitate my success...It all helped push me to apply and help through the process...It wouldn't be possible without all of this. My career path would have been very different.”** Finally, almost all Scholars reported being equally or more likely to enroll in a Ph.D. program after their experiences in BUILD (90%-100%; see Figure 3). As one Year 3 Scholar put it, **“I felt supported and cared about throughout my academic, professional, and personal struggles. This, in turn, helped me to build confidence in my own ability to apply to PhD programs.”** This feedback is supported in the high percentage of Year 3 Scholars (92%) applying to graduate programs this year (see section B.4 of TL4 report).

Figure 3. Scholars' Perceived Likelihood to Enroll in PhD Program Now vs. Their Intentions To Do So Prior to Learning Community



F. Year 3 Program Implementation Challenges

One of the biggest challenges in Year 4 has been providing continual support for Year 2 Scholars who extend their graduation date in order to complete core courses in their major. This has particularly been a challenge among students pursuing majors in biology, chemistry, and engineering. From last year's Year 2 Scholars cohort (Year 3), 24 students (59%) graduated in May 2017, with 14 additional students having graduated in December 2017 or graduating this May 2018, and 2 students not graduating until December 2018 or May 2019, thereby, going beyond the two years of the BUILD Scholars Program. For this year's Year 2 Scholars cohort (Year 4), we have 27 students (68%) graduating in May 2018, with an additional 13 students not graduating until the 2018-2019 academic year. To address this concern, we pilot tested a Scholars 3 Program this year (described in section B above) to provide continued support for these non-graduated students to prepare and submit their graduate school applications. We have a new training director who leads the Scholars 3 program and provides one-on-one mentoring for students to address common barriers (e.g., lack of student self-confidence) to applying for graduate school. We are also following up with students who did not continue in BUILD to determine their career plans and explore ways we can support those who continue to pursue graduate training.

Another challenge has been the large scope of our student training programs in terms of number of trainees ($N=130$ in Year 4) and their representation of health research areas across four different colleges on our campus. To address this challenge, we have restructured the

training director model for our student training core team to provide additional support for our BUILD students as they pursue graduate training in different areas of BSE/BHS research. Specifically, we have added four additional training directors (TDs) for our Scholars program, for a total of seven (includes our program director). These TDs were added to have faculty with diverse backgrounds in BSE/BHS research across all four colleges that match our BUILD students' pursuit of careers in behavioral and biomedical research. This new training director model creates flexibility and broader expertise in allowing for shared career development topics during our weekly LC (e.g., stress/time management), regardless of students' research background, and adds to the ability to have breakout groups. These breakout groups separate students by college (e.g., engineering, health sciences) when needed in order for training directors (from the same college) to be able to provide more one-on-one mentoring of these students as they prepare for graduate school. Students are assigned to a training director and a graduate assistant (near-peer mentor) to review different topics discussed in the LC, as well as to provide discipline-specific support during one-on-one meetings. We also have a LC specialist who works with the ST Core Director and TDs to oversee our LC graduate assistants and provides training workshops for these near-peer mentors (e.g., providing feedback to students, incorporating the cultural capital model) to assist in their work with our undergraduate BUILD students and to support their own career development.

A final challenge this year has been the tracking of students who have graduated or left the BUILD program. To date, we have 218 students who have participated in BUILD since the inception of the student training program in 2015. We have made a concerted effort this year to follow-up with each of these students to get updated information on whether they have continued on the research career path, if they have graduated with a BHS/BSE degree, and if they have applied for graduate school. We have also reached out to our first cohort of BUILD students that are currently in graduate school ($n=10$) to determine how they are adjusting to their new program. These tracking efforts have included the training directors for each college contacting that student's BUILD faculty mentor to reach out to these students or provide updated information themselves if the students have not responded to our initial inquiry for follow-up data. We also require our students to sign up for LinkedIn and an eRA commons number when they join BUILD which has helped us collect some data for students we cannot reach. These tracking efforts have been very successful this year as we have follow-up data for 89% of our students ($n=193$), which includes all of our Year 2 Scholars from last year. We have 25 students remaining that we are currently tracking and largely consist of Associates who did not continue in our Scholars Program.

II. Outreach and Recruitment

The outreach and recruitment effort by the Student Training core is campus-wide, with a stronger emphasis in the disciplines closely relevant to BHS/BSE health research and with active coordination with two other NIH-funded programs on campus, MARC U*STAR and RISE. This includes extensive outreach to four colleges on our campus – COE (Engineering), CHHS (Health & Human Services), CLA (Liberal Arts), and CNSM (Natural Sciences & Mathematics) – due to their diversity of college majors/departments representing BHS/BSE research. In Year 4, we hired a full-time Outreach Coordinator to expand our outreach and recruitment efforts across campus with an emphasis on reaching out to student organizations, department chairs and faculty, and having a stronger social media presence. This coordinator also conducts a number of classroom visits and information sessions to inform CSULB students about BUILD, MARC U*STAR, and RISE, as well as other student research opportunities on our campus (e.g., UROP). Our outreach and recruitment efforts are described in more detail below.

A. Presentations

We conducted 91 class presentations of 5–10 minutes from September 2017 – March 2018 (see **Table 3**). Our increased effort to meet students in the classroom is the biggest addition to this year’s strategy. We also found it to be the most effective. In informal polling of students that attended our information sessions, the vast majority said they heard about the program through a class visit. Classes were as large as 270 or as small as 12 students. We passed out informational postcards during our visits so students had a reference for the programs’ benefits, application and website links, information sessions, and contact information for questions. The goal of these visits was to get students to attend one of our six information sessions to learn more about our program, although many decided to apply directly to the program after hearing a class presentation. We found that connecting with faculty for these announcements was sometimes difficult. Therefore, we had faculty advocates (i.e., BUILD training directors, BUILD faculty mentors) that would sometimes reach out to faculty in their college to help make the connection for the visit. We used this same presentation strategy to reach out to CSULB student organizations in individual club meetings or at their college’s council meetings and to CSULB advisors at the annual CSULB Advising Institute. In February of 2018, we also connected with Psychology PRO-Guides who visit many Psychology classes to make announcements about opportunities for psychology students. We provided them with outreach postcards and a short script so they could talk to students about our program.

Table 3. Distribution of Class Presentations

College	COE	CHHS	CLA	CNSM	Total
College Total	24	21	25	21	91
Percentage	26%	23%	28%	23%	100%

B. Information Sessions

Six information sessions lasting one hour were held between November 2017 – February 2018 that offered a detail-oriented description of the programs and how to apply (see **Table 4**). We hosted a total of 160 students, 27 from Engineering, 42 from Health and Human Services, 31 from Liberal Arts, 54 from Natural Science and Mathematics, 2 from the College of Business Administration, 2 undeclared, and 2 unknown. Three information sessions focused on behavioral health sciences (BHS) research (CHHS and CLA) and three focused on biomedical sciences and engineering (BSE) research (CNSM and COE). To highlight research career paths in these different areas, we produced a 2-minute BUILD promotional video as well as several 2-minute mentor videos. We showed the BUILD promotional video as well as one mentor video at each info session. We also invited at least one student presenter to share their experience in the BUILD program. In addition, we produced an online information session video that we posted to our website, YouTube channel, and Facebook page for students who could not attend our information sessions. We released this video in February 2018.

Table 4. Distribution of Students Attending Information Sessions

Date	11/8/17	11/9/17	2/7/18	2/8/18	2/21/18	2/22/18	Total
Research Focus	BSE	BHS	BSE	BHS	BHS	BSE	6
No. of Students	51	44	20	16	17	12	160
Percentage	31%	27%	13%	10%	11%	8%	100%

C. On-Campus Events

Many on-campus events offer outreach and panel discussion/presentation opportunities at CSULB. We participated in at least 16 of these events here on campus and asked students to sign our interest sign-up sheets so we could contact them about our applications. The most productive events included the CNSM Freshman Orientation (71 sign ups), Fall Week of Welcome (111 sign ups), and TECH Day (48 sign ups). Other events attended included the Engineering Job Fair, EOP Grad Professional Schools Fair, HACU Summit (Panel), Student Housing Resource Fair, and the Opportunities after UROP (Panel). Tabling was conducted by a mix a of staff, graduate assistants, and BUILD student trainees.

D. BUILD Website and Social Media

The BUILD website and social media were important components in advertising and supporting our recruitment efforts. An online interest form allowed students to sign up to receive application information. We encouraged students to fill out the online interest form long before the formal application season began (beginning in August 2017). One-hundred and sixty two students signed up online. We had a larger representation of students from the Health and Human Services and Liberal Arts this year due to the increased outreach efforts to BHS majors by the Outreach Coordinator (see **Table 5**). Increased outreach was focused on BHS majors in Year 4 to address concerns we had in previous years of not getting enough student applicants from these colleges. In addition to increasing our outreach efforts by college, enhanced outreach was focused towards ethnic minority students traditionally underrepresented in BHS/BSE research careers. From these outreach efforts, we had a larger representation of Latino/a (41% in Year 4 vs. 35% in Year 3) and African-American students (9% in Year 4 vs. 1% in Year 3) compared to previous years (see **Table 6**).

Table 5. College Distribution of Students Completing the Online Interest Form

College	COE	CHHS	CLA	CNSM	Unknown	Total
College Total	30	27	37	58	8	160
Percentage	19%	17%	23%	36%	5%	100%

Table 6. Ethnic/Racial Distribution of Students Completing the Online Interest Form

	African American /Black	American Indian/ Alaska Native	Asian American	Hispanic/ Latino(a)	Pacific Islander	White	Unknown /Not Reported	Total
Total	14	0	50	66	1	24	5	160
Percentage	9%	0%	31%	41%	0.6%	15%	3%	100%

The BUILD website hosted information on the applications, information sessions, and promotional videos. The emails and flyers disseminated referenced these webpages because having all the necessary information on one flyer or email was cumbersome for students to read through. We also launched a searchable mentor database that allowed students to search for a mentor based on research areas of interest and department. Since we have over 100 mentors listed, we hope that this database will provide students with an easier online experience.

E. Emails & Flyers

A total of 8,000 postcard flyers were passed out to students and faculty at our presentations or events. We posted large tabloid posters with stakes on campus lawns and letter size flyers around campus advertising our Information Sessions and encouraging students to apply. We also took advantage of the many TVs on campus in places like the University Student Union to show a single-image advertisement.

While personally reaching students was very important, we were able to reach the most volume of students through email. We were able to utilize CSULB's advising software to send targeted emails to students in selected departments with a 2.9 GPA or higher and 72 units or less. We sent about 2,400 emails at the end of the fall semester and beginning of the spring semester reminding students about the applications and other key details. We also gathered emails from interest sign-up sheets at events, the online interest form, direct emails, and class visits of 50 students or less. We found that collecting an interest sign-up sheet for large classes took far too long and often meant a prolonged disruption of class-time. In all, we gathered a list of 939 working emails (153 emails were unreadable or undeliverable). We know this was an engaged group because our email open rate was 47% based on an invitation to the 2018 BUILD Annual Research Symposium. Finally, we sent an email to a large number of CSULB faculty asking them to share our promotional materials with their students through email and on BeachBoard (University E-learning system with individualized course information).

F. Off-campus Outreach Efforts

Our off-campus outreach efforts match those used on campus. We have done presentations, information sessions, tabling, electronic outreach and emails/flyers all for the purpose of raising awareness and recruiting students for our BUILD program. We presented and tabled at our community college (CC) partner schools. We did a dozen class visits (Cerritos College), tabling events (Psychology Day at Cerritos College), hour-long information sessions which included CC alumni (also current BUILD students) as co-presenters (Cypress and Golden West Colleges), and a barrage of electronic outreach. Any student who provided contact information via these outreach efforts received emails from BUILD personnel.

The BUILD Information Session was recorded and archived so that it could be shared with pipeline partners (https://www.youtube.com/watch?v=--IY_s9IYMw). Each CC campus received electronic fliers and slides to post and share. Electronic fliers and the campus-specific video links were sent to each CC partner to be shared in classes. An electronic slide was displayed on large monitors on each campus in high traffic areas (Cypress, Cerritos and Golden West). The hope was that having the slides, video, and fliers in electronic format would allow CC faculty to share the information without having to have BUILD personnel attend in person. Although we are willing and have conducted class visits in the past, some faculty are reluctant to give up class time.

This year we started to offer research training opportunities to our pipeline partners both in the form of a workshop delivered on their CC campus and via attendance at workshops hosted at CSULB. To date, Cerritos College hosted one research workshop and Cypress is planning to host another one. More than a dozen students have attended these research training workshops at CSULB (details are described in section B2). Outreach to the Long Beach Unified School District, our K-12 partner, includes our presence at their annual District Science Fair (May 13, 2017 with anticipated participation in 2018) and conversations with their teachers, department chairs and administrators.

III. Trainee Selection

A. Application Form

As in the previous years, we used a common application form – one for Lower Division (BUILD and RISE) and one for Upper Division (BUILD, RISE, and MARC U*STAR) – to streamline the recruitment and selection process and to minimize confusion and redundant application burden for students and faculty across these three NIH-funded student research training programs. As described in Section D (Website and Social Media; pg. 10) above, an online interest form was used year round as an outreach tool to allow students to sign up to receive application information for these programs by indicating their name, contact information, and major. In addition to the online interest form, the common application form for these programs asks students to indicate basic academic information including their major, GPA, units remaining to graduate (degree planner), demographic and background information. They are also asked to indicate the program level they are applying for and the NIH program that they wish to be considered for if they have a preference and the reasons for their program preference. The common application form also requires students to include a copy of their academic transcript, to complete a personal statement and research interest statement, and to list the individuals who are providing letters of recommendation. As part of their application, students are required to complete an online questionnaire on work ethics, science identity, and grit. Following the CSULB legal counsel’s advice we collected information on gender, ethnicity and disability status using the *Confidential Data Form*, separate from the common application form, so that such information could not be considered in our evaluation of the applications. As done in previous years, we continued to provide in-person, hands-on support with the application process for students by offering three application workshops and over 30 hours per week of office hours by the BUILD graduate assistants in our BUILD Student Center.

B. Applications Received

The data presented below is for applications received and reviewed for our Upper Division Programs (BUILD Scholars, RISE, MARC U*STAR) and our one-year BUILD Fellows Program (described on page 4 above). We do not yet have data for our Lower Division Programs (BUILD Associates, RISE) as students are submitting their applications for these programs this month.

In Year 4, we received a total of 110 applications for our Upper Division Programs and 10 applications for our Fellows Program. Last year, we had significantly more applications from students in Natural Sciences & Mathematics (50%) which was very concerning given the limited number of faculty mentors we have to work with that many students from that college, as well as the need to have better outreach of students representing other health research areas on our campus. This year, we had a much more balanced distribution of student applications across the four colleges due to our newly hired Outreach Coordinator who increased recruitment efforts in engineering and BHS majors (Health & Human Services and Liberal Arts). Consequently, we had a larger representation of students from engineering (26% in Year 4 vs. 12% in Year 3) and BHS majors (44% in Year 4 vs. 37% in Year 3) compared to previous years (see **Table 7**). This more balanced distribution was also reflected in student applying to our Fellows Program with approximately equal numbers of applications from engineering and the BHS majors (Table 7).

Table 7. Number of Upper Division and Fellow Applicants by College in Year 4

Program Level	COE	CHHS	CLA	CNSM	Total
Upper Division	29	16	32	33	110
Percentage	26%	15%	29%	30%	100%
Fellows	3	2	4	1	10
Percentage	30%	20%	40%	10%	100%
College Total	32	18	36	34	120
Percentage	27%	15%	30%	28%	100%

As in previous years, applicants were able to indicate a program preference if they had any (see **Table 8**). Overall, applicants had a greater preference for joining the BUILD program (47%), particularly among students from Health & Human Services (88%) and Liberal Arts (53%). This is consistent with the reputation of BUILD supporting a larger scope of health-related research in BHS research fields and majors than either the MARC U*STAR and RISE Programs which tend to cater more to students in BSE research fields. In Engineering, most applicants did not have a program preference (55%) followed by a preference for joining BUILD (42%). In Natural Sciences & Mathematics, most applicants also did not have a program preference (37%), followed by a preference for joining BUILD (27%), RISE (21%), or MARC U*STAR (15%). Differences in program preference among this last group of applicants depended on whether they wanted to be part of a larger cohort (i.e., BUILD) or smaller cohort (i.e., RISE, MARC U*STAR) of peers in their research area.

Table 8. Preference for Upper Division Programs by College in Year 4

Program	COE		CHHS		CLA		CNSM		Total	
BUILD	12	42%	14	88%	17	53%	9	27%	52	47%
MARC	1	3%	0	0%	2	6%	5	15%	8	7%
RISE	0	0%	0	0%	0	0%	7	21%	7	7%
No Preference	16	55%	2	12%	13	41%	12	37%	43	39%
Total	29	100%	16	100%	32	100%	33	100%	110	100%

Our goal with student outreach has been to engage traditionally underrepresented groups [first generation-educated racial and ethnic minorities (e.g., Latino, African American, Pacific Islander, Native Alaskans and Hawaiians, and Native American), people with disabilities, and those from disadvantaged backgrounds] to apply for BUILD in order to increase diversity in the health research pipeline and workforce. As previously mentioned, we received a total of 110 applications for our Upper Division Programs and 10 applications for our Fellows Program in Year 4. Approximately two-thirds (63%, $n=75$) of our applicants are first generation-educated (59% for Upper Division Programs and 100% for Fellows). Another three-fourths (77%, $n=92$) are eligible for financial aid (76% for Upper Division Programs and 80% for Fellows) and 16% live under the U.S. poverty level ($n=19$; 15% for Upper Division Programs and 30% for Fellows). Our applicants come from ethnically diverse backgrounds: 43% Hispanic/Latino, 30% Asian American, 6% African-American, 7% from more than one race, and 12% white (see **Table 9**). This is representative of the ethnic diversity of our campus' undergraduate student population: 39% Hispanic/Latino, 23% Asian American, 4% African-American, 5% from more than one race, and 19% white (CSULB campus data, 2015). In terms of gender, approximately two-thirds (69%, $n=83$) of our applicants are women (72% for Upper Division Programs and 40% for Fellows), which is higher than the gender distribution of our campus' undergraduate students: 56% women, 44% men (CSULB campus data, 2015). A smaller percentage (6%, $n=7$) of applicants report having a disability (5% for Upper Division Programs and 20% for Fellows).

In addition to tracking the diversity of our applicant pool, we also examined the number of applications we received from our on-campus (e.g., BUILD Associates, UROP, HSI-STEM) and off-campus (e.g., community colleges) pipeline programs and institutions. Results show that approximately one-third (32%, $n=38$) of our applicants came from Lower Division student research training programs on our campus (31% for Upper Division Programs and 40% for Fellows) – 37% ($n=14$) from our BUILD Associates Program and another 29% ($n=11$) from our campus' Undergraduate Research Opportunities Program (UROP). Another 6% ($n=7$) of our applicants are direct transfer students from our community college partners.

Table 9. Ethnic/Racial distribution of Upper Division and Fellow Applicants in Year 4

	African American /Black	American Indian/ Alaska Native	Asian American	Hispanic/ Latino(a)	White	More than 1 race	Unknown /Not Reported	Total
Upper Division	6	0	34	47	13	8	2	110
Percentage	5%	0%	31%	43%	12%	7%	2%	100%
Fellows	1	0	2	5	2	0	0	10
Percentage	10%	0%	20%	50%	20%	0%	0%	100%
Eth/Race Tot	7	0	36	52	15	8	2	120
Percentage	6%	0%	30%	43%	12%	7%	2%	100%

C. Selection of Year 5 BUILD Trainees

At the time of this report, we have just completed interviewing applicants for selection of next year's BUILD trainees for BUILD Scholars and Fellows. We have not yet made our selections or have sent out offers to applicants for these programs. Additionally, we are just receiving applications for our BUILD Associates Program and therefore, have not yet conducted interviews for these applicants.

B.4 What opportunities for training and professional development has the project provided?

The following statement is required by NIH and was suggested to be added to D.1. As there was no apparent way to incorporate it there, we have included it here in B.4.

All of the students who have received financial/monetary support under this TL4 award are enrolled as full-time undergraduate students in academic degree programs in biomedical science fields at CSULB only. All of the students are U.S. citizens, U.S. non-citizen nationals or permanent residents as described in the RFA-RM-13-016. All TL4-funded students have been appointed as a NIH trainee through XTrain, and their individual progress reports, Tables 2, 5C, and 8D, and Trainee Diversity Report can be found in this section after the descriptions of our program report.

I. STC Training Program Report

A. Updates since Year 3 Report

In Year 4, three student research training programs were implemented: the Associates Program, the Scholars Program, and the newly created Fellows Program. The Associates and Fellows Programs are funded through the RL5 mechanism and the Scholars Program is funded through the TL4 mechanism. This is our third year of running the Associates Program through the Research Enrichment Core as well as our third year of running the Scholars Program through the Student Training Core. The structure of our Associates program remains the same as in Year 3 and is a one-year program (consisting of a 2-week summer program and a two-semester Learning Community seminar) for sophomores that focuses on engaging students in behavioral health sciences (BHS) and biomedical sciences and engineering (BSE) research and preparing them for different research career options.

Our Scholars program is a two-year program that focuses on preparing juniors (Year 1 Scholars) and seniors (Year 2 Scholars) for graduate study in BHS/BSE research career paths. This was our first year of having graduates from the Scholars Program complete their bachelors degree and go onto graduate school. Although the structure of our Scholars program has generally remained the same, we had 14 Year 2 Scholars inform us that they were postponing graduation for one to two more semesters to continue their studies and prepare for graduate school applications. In order to support these students, we created a new competitive **Scholars 3 Program** (Year 3 Scholars; TL4-funded), where Year 2 Scholars who are delaying graduation can apply to be paired with a BUILD faculty training director for this one-semester program that helps them prepare and submit their graduate school applications during the Fall semester. Outcomes for the Scholars 3 Program are presented below. In Year 4 we also created a one-year pilot **Fellows Program** (RL5-funded) that focuses on preparing a small group of seniors for graduate study in BHS/BSE research. To be selected, students must have two semesters of prior directed research experience with a faculty mentor (during their junior year) who would continue to provide research mentoring during the students' senior year and a minimum GPA of 3.2. Although the Fellows Program is funded through the RL5 mechanism, it is run through the Student Training Core so that these trainees can benefit from the same research training and graduate school preparation activities provided to students in our Scholars Program. Year 4 training activities and measurable accomplishments for Scholars, as well as our use of an individualized development plan (IDP) and training for the responsible conduct of research (RCR), are summarized below. Training activities and accomplishments for the Associates and Fellows are presented in the RL5 report and in **Table 9** below.

B. Scholars Training Activities

Summer Training. Year 1 Scholars began their program in June 2017 with SURGE 1, an intensive 8-week summer research training program that consisted of engagement in faculty-mentored research (up to 30 hours weekly), presentation of a research project, participation in a biweekly 3-hour-long summer Learning Community (LC) seminar, development of IDP, and completion of RCR training. Additionally, Scholars went on two field trips to visit our R1 partners. One field trip was to the Department of Preventive Medicine at the USC Keck School of Medicine and the other was to the University of California, Irvine. At the end of the summer training, all Year 1 Scholars gave a poster presentation at the BUILD Summer Research Symposium that took place on the last day of the summer program. Trainees' family members were invited to learn about BUILD, meet the training faculty and faculty mentors, and listen to the trainees' poster presentations. Over 200 family members, friends, and guests attended the symposium. The purpose of these summer training activities was to help Scholars to develop a cohesive cohort, to acclimate them to their research environment and faculty mentor's research, and to develop their science identity and sense of belonging as a researcher.

For Year 2 Scholars, the second summer of their program is designed for them to attend an off-campus summer research program at a R1 research-intensive university. Unfortunately, not all Scholars were placed in an off-campus program and therefore, stayed at CSULB to continue their research training with their BUILD faculty mentor. For these students and our Fellows we offered SURGE 2, a weekly two-hour summer LC seminar for 8 weeks which provided GRE practice tests and reviews and continued preparation for graduate school applications with a specific focus on fine-tuning their curriculum vitae and statement of purpose. Year 2 Scholars and Fellows also took part in the field trips to USC and UCI with the Year 1 Scholars and presented their research at the BUILD Summer Research Symposium.

Academic Year Training. During the academic year, all Scholars continued to participate in faculty-mentored research (10-15 hours a week) and a weekly one-hour LC seminar. This seminar, run separately for Year 1 and Year 2 Scholars, was offered as a 1-unit course for each level of the training program. It focused on professional development activities including developing their IDP, statement of purpose, curriculum vitae, summer internship applications (for Year 1 Scholars), graduate school applications (for Year 2 Scholars and Fellows) and research poster preparation and presentation. Year 3 Scholars also participated in a weekly LC in Fall 2017. As part of their program, they were required to meet with one of our training directors to get one-on-one support and guidance with their graduate school applications. They also met as a group periodically for peer support throughout the application process and were invited to attend and participate in special topics offered in the LC seminar for Year 1 and 2 Scholars, such as our newly developed stress and time management workshops (described below). Evaluation data from the LC seminars (UNIV 395 and 495) can be found in Section B.2.

In Year 3 we obtained approval for the three LC courses by the University Curriculum Committee as UNIV 295 (Associates), UNIV 395 (Year 1 Scholars), and UNIV 495 (Year 2 Scholars), which paves the way for future institutionalization of the training curriculum. We are continuing working on manualizing the LC curriculum, modeling it after the *Entering Research* and *Entering Mentoring* curriculum by Christine Pfund and Janet Branchaw of the University of Wisconsin Madison and the National Research Mentoring Network. The first chapter of the curriculum has been drafted and we are working on revising it based on the feedback we received from Dr. Branchaw. In addition, we have fully developed a three-year curriculum, with lesson plans for one of the modules, the Individual Development Plan (IDP), ready for dissemination. This curriculum includes lecture slides, assignments and activities, grading instructions for graduate assistants, and sample trainee IDPs. Modules on the development of the Curriculum Vitae (CV) and Statement of Purpose (SOP) are in the works to be finalized next.

While it was not identified as a focus of ST core program development, it has become clear to us that proper training of the Graduate Assistants (GAs) of our LC is critical to the success of our program. As near-peer mentors, GAs work with trainees in all three of our BUILD programs (Associates, Scholars, and Fellows). We have developed a GA training curriculum that focuses on improving GA skills in communication, cultural awareness, and data collection. Training manuals for individual modules are currently being prepared and will be ready for dissemination in Year 5. The outcomes of this training curriculum on GA development was recently presented at the *Understanding Interventions Conference* in March 2018. We have also developed protocols addressing the use of academic advising for early identification and intervention of trainees at risk for attrition due to poor academic performance/research performance. These strategies are currently being documented and evaluated for effectiveness.

Research-Enriched Curriculum. One of the innovative aspects of our BUILD Program is the development and implementation of the Research-Enriched Curriculum. This curriculum consists of four courses that start at the Lower Division level and provide training in research methods and scientific communication as well as an introduction to interdisciplinary research in the area of health disparities. BUILD trainees are required to take one of these courses every year that they are in BUILD, with 100% of Year 1 Scholars having taken one required course this year, 90% of Year 2 Scholars having taken two required courses over the two years of their training, and 100% of Fellows having taken one required course this year.

GRE Preparation. In previous years, we invited an outside lecturer to give Year 1 Scholars a week-long intensive GRE workshop during the winter break and provided them with additional GRE practice tests. A major issue with this format of GRE preparation was that most Scholars did not take advantage of the practice tests and took the GRE exam for the first time in the fall semester of their second year in the program – almost 10 months later. This resulted in many of our Year 2 Scholars being ill prepared and having low GRE scores, often scrambling to take the exam again in the fall semester before their graduate school applications were due. Consequently, we made significant policy changes this year requiring Year 1 Scholars to take a GRE workshop on campus offered by the College of Continuing and Professional Education Extension Program by the end of their first semester in BUILD. Furthermore, the GRE practice tests were incorporated into the grading criteria for the LC seminar that Year 1 Scholars enroll in (UNIV 395) such that they are now required to take at least two practice GRE tests by the end of their second semester in the program. Finally, all Year 1 Scholars are required to take the GRE during their second summer in the program in order to give them ample time to retake the GRE, if needed, long before their graduate school applications are due that fall. We are currently gathering GRE data to determine if these policy changes results in improvements in test scores.

Psychosocial Skills Training. In Year 4 we made a concerted effort to expand the psychosocial skills training component of our Associates, Scholars, and Fellows programs to strengthen our trainees' persistence and grit for pursuing doctoral training and a research career. Trainees in these programs participated in a series of group-based workshops implemented as part of their respective summer programs (PREP, SURGE 1, SURGE 2) and LC seminars (UNIV 295, 395, & 495) throughout the academic year. These stress and time management workshops were designed, tailored, and led by Dr. Guido Urizar (BUILD PI) and his BUILD students to address stressors commonly reported by trainees. More specifically, these interactive workshops focused on teaching relaxation (i.e., diaphragmatic breathing, progressive muscle relaxation, positive psychology exercises) and coping skills (i.e., stress awareness, time management, assertive communication, social support, modifying negative thoughts, overcoming adversity) to manage stress. Many of these workshops included take-home assignments that required trainees to practice these relaxation and coping skills throughout the

week and report on their experiences. These topics and assignments are based on well-established stress management interventions that have been empirically tested in community health settings as part of Dr. Urizar's stress and health research. In his published work, he has shown these interventions to reduce physiological (e.g., cortisol) and perceived stress levels in a number of populations. He has also adapted these materials for undergraduate students taking his Psychology of Stress course at CSULB. We are currently collecting student feedback and outcome data from these workshops to determine their effectiveness with our BUILD trainees. In addition to these workshops, we offered individual time management sessions with an education counselor on our campus to trainees who performed poorly in their courses.

Other Support. In Year 4 we continued to make a concerted effort to provide academic support for our trainees. One effort was to better utilize the resources already available on campus. We recognized that many of the trainees who struggle in their courses need timely feedback from their academic advisors for effective strategies in navigating through the curriculum in their major. This feedback is very closely tied to their Individual Development Plan that they develop as part of BUILD. Therefore, Associates were required to meet with their academic advisors to review their degree planner and make sure that the additional courses required by BUILD fit well into their degree plan. Scholars who struggled in the core courses in their major were also required to seek advising from their academic advisor to ensure their timely graduation as we learned from previous student cohorts that these additional courses may have played a role in delaying their graduation.

BUILD also continued to provide trainees with support for scientific writing as well as writing essays for summer internship and graduate school applications from writing specialists on our campus (e.g., free writing workshops offered through the Graduate Resource Center, Instructors from the Scientific Research Communication course). In addition, our new and expanded training director model (described in section B.2 of the TL4 report) allowed trainees to receive discipline-specific feedback on their writing for applications and research writing.

Commencement Ceremony. In May 2017, we held our first Commencement Ceremony for our first cohort of graduating Scholars. All Year 2 Scholars, their BUILD faculty mentors, and family guests were invited. Graduating Scholars who completed all training requirements received a BUILD Training Program completion certificate. Those who delayed their graduation for one more year will pick up their certificate upon graduating this May. Details of the Commencement Ceremony can be found in the Institutional Development Core report.

II. Scholars Training Outcomes

The training outcomes of Scholars can be broadly categorized into (a) scholarly achievements (i.e., research presentations, publications, honors & awards) and (b) advancement in the doctoral program pipeline (i.e., summer research placements and graduate program admissions). Below is a summary of the relevant outcomes of BUILD trainees in Year 4 (see **Tables 5C, 8D, and 10** for training outcomes by student).

A. Scholarly Products

Research Presentations. Scholars are expected to participate in at least one conference every year. For Year 1 Scholars this includes attendance of a student training conference such as ABRCMS or SACNAS. Presentation is not required because many of them would not have accomplished enough in their research yet to submit an abstract in time for the fall conference. However, Year 2 Scholars and Fellows are expected to give at least one conference presentation on their research. The list of professional venues where trainees' present illustrate the wide range of health-related research areas covered in their work. Publication by the end of their two-

year training is expected but not required. Associates have neither the expectation nor the requirement to present or publish.

Table 1 summarizes the research presentation activities of our Associates, Scholars, and Fellows. Not surprisingly, very few Associates gave a research presentation this year: two at the BUILD Annual Symposium and two at professional conferences. On the other hand, Scholars and Fellows were quite active in presenting their research. Year 1, Year 2, and Year 3 Scholars, gave approximately one to two presentations a year. As expected, the number of research presentations was higher for Year 2 Scholars compared to Year 1 Scholars given that they had more time to work with their respective faculty mentors and thus, were more likely to present their research at professional conferences. Year 3 Scholars gave less research presentations in fall 2017 as they had already presented their research during their first two years in the Scholars Program and were now shifting their focus on preparing their graduate school applications. Fellows averaged the most number of research presentations this past year with approximately three presentations each. This is very encouraging, as Fellows are in an accelerated one-year training program and thus, have a shorter timeframe to present their work while in BUILD.

Table 1. Research Presentations given by Associates, Scholars, & Fellows in Year 4

Conference Venue	Associates	Year 1 Scholars	Year 2 Scholars	Year 3 Scholars	Fellows
On-campus school conferences/events	2	28	13	3	5
Off-campus research/professional conferences	2	27	52	7	5
Total	4	55	65	10	10
Average	0.2	1.2	1.7	0.8	3.3

Research Publications. Publication outcomes also show that Scholars were productive with their research this past year (see **Table 2**). Year 1 Scholars had one peer-reviewed journal article, Year 2 Scholars had six peer-reviewed journal articles with two additional articles under review, and Year 3 Scholars had one-peer reviewed journal article.

Table 2. Publications (Co-)authored by Associates, Scholars, & Fellows in Year 4

Type of Publication	Associates	Year 1 Scholars	Year 2 Scholars	Year 3 Scholars	Fellows
Peer-reviewed journal articles	0	1	6 (2 under review)	1	0
Conference Proceedings	0	0	1	0	0
Published Abstracts	1	0	0	0	0
Book Chapters	0	0	0	0	0
Total	1	1	7	1	0

Honors & Awards. Another outcome we tracked was the number of honors and awards that trainees received due to their research and academic accomplishments (see **Table 3**). Examples of on-campus awards included trainees receiving 1st or 2nd place at our campus' annual research competition, receiving the outstanding senior award for exemplary work with their research and in the classroom, and being named on the President's list for their academic achievements. Example of off-campus awards included trainees receiving accolades for their research presentations at professional conferences (e.g., ABRCMS, SACNAS) and scholarships received for conference travel. The number of honors and awards were particularly high among our Year 2 Scholars, which helped to strengthen their applications to graduate programs.

Table 3. Honors & Awards by Associates, Scholars, & Fellows in Year 4

Type of Award	Associates	Year 1 Scholars	Year 2 Scholars	Year 3 Scholars	Fellows
On-campus honor/award	1	6	28	0	2
Off-campus honor/award	0	6	5	0	0
Total	1	12	33	0	2

B. Advancement in the Doctoral Pipeline

Summer Research Placements. An important component of the Scholars Program is for students to apply for and attend an off-campus summer research internship at a doctoral-granting institution in the summer before their second year in BUILD. Of the 40 trainees who were entering the BUILD Scholars 2 Program in Year 4, 27 (68%) attended an off-campus summer research internship. Another 13 students (32%) completed their summer research internship with their faculty mentor on the CSULB campus as part of our SURGE 2 summer program. Therefore, **100% participated in either an off- or on-campus summer research internship**. We also have an additional 47 Year 1 Scholars who are currently applying for summer research internships for summer 2018. As part of a policy change in Year 4, all Year 1 Scholars are now required to apply to a minimum of five off-campus summer research internship programs. Our R1 partners, UCI and USC, have actively supported our Scholars. The UCI SURF (Summer Undergraduate Research Fellowship) Program, which has created separate slots for our BUILD Scholars, has offered summer internship slots to eight of our Year 1 Scholars for summer 2018. Additionally, the USC Department of Preventative Medicine has offered summer research opportunities to five of our Year 1 Scholars.

Graduate School Application and Acceptance Rates. The main outcome for our BUILD program is to track the number of trainees who have applied to and entered graduate programs in areas of BHS/BSE research. Of particular interest are those trainees who graduated/are graduating from CSULB since they are eligible to apply to graduate programs. Since Year 3, **we have had 24 trainees who graduated with BHS/BSE degrees** (through summer 2017) from our original Year 2 Scholars cohort (2016-2017) and 43 additional trainees who are graduating from CSULB by spring 2018 for a total of 67 Scholars and Fellows who are eligible to apply to graduate programs. Of the 26 trainees from our original Year 2 Scholars cohort (2016-2017) who already graduated ($n=24$) or are graduating this year ($n=2$), 19 applied for graduate programs during fall 2016/spring 2017 and 3 applied for graduate programs this fall 2017 for an **85% graduate school application rate** (all in areas of BHS/BSE research). Of the 22 who applied, **18 were accepted into graduate programs for an 82% graduate school acceptance rate** (11 into PhD programs and 7 into Masters programs; 9 BHS, 9 BSE; see **Table 8D** below for names and types of programs). Of these 18 students, 15 accepted their offers and 3 deferred their offers until the following year. Of the 4 students who were not accepted into graduate school, 3 plan to reapply next year. We are following up with the students who accepted their graduate school offers to determine if they received pre-doctoral T32 training grants or applied to fellowship awards and received them.

We have an additional 26 Year 2 Scholars (2017-2018 cohort) who are graduating from CSULB in spring 2018, 19 of which are currently applying to graduate programs for a 73% application rate. Furthermore, **11 (92%) of our Year 3 Scholars (2017-2018 cohort), applied for graduate school**, while the other student decided to apply for medical school. We are currently following up with these Year 2 and Year 3 Scholars to track how many are accepted to graduate school. Finally, **all 3 of our Fellows (100%) applied and were accepted into graduate programs** in BHS research (2 into PhD programs, and 1 into a Masters Program). Therefore, we plan to expand this program up to 10 students in 2018-2019.

Table 4. Graduate School Application & Acceptance Rates for Scholars & Fellows in Year 4

BUILD Cohort	Year 2 Scholars (2016-17)	Year 2 Scholars (2017-18)	Year 3 Scholars (2017-18)	Fellows (2017-18)
Trainees in Cohort	28	40	12	3
Graduating/Graduated & Eligible to Apply	26	26	12	3
Applied to Graduate School	22	19	11	3
Application Rate	85%	73%	92%	100%
Accepted to Graduate School	18	Tracking	Tracking	3
Acceptance Rate	82%	-	-	100%

C. Individual Development Plan

In Year 2 we created a basic template for trainees' individual development plan based on a model that was published in a special issue of the SACNAS newsletter. This template consists of two parts. The first part encourages students to articulate their short-term, mid-range, and long-term professional and personal goals and objectives. The second part covers skills and knowledge assessment and strategies for developing needed skills and knowledge. After having implemented the IDP activity for the past two years with Associates and Scholars, and now in the past year with Fellows, we have further clarified our aims for IDP, customized our approach to utilizing the IDP with our trainees, and written up a manual for using the IDP across all of our BUILD student research training programs.

We have three aims: (a) to help trainees identify three careers that they would consider pursuing, (b) to help trainees identify the knowledge and skills they need to become successful in their chosen careers, and (c) to help trainees prepare an Individual Development Plan that integrates their career and personal goals. The core activities consist of utilizing the degree planner that all CSULB students are required to complete for their academic roadmap to ensure timely graduation, helping students complete their personalized IDP, and having students periodically revise and update their IDP throughout their participation in the BUILD Program. Their final IDP in the BUILD Program includes a specific plan for applying to graduate schools and financing their masters and doctoral education. BUILD Graduate Assistants play an important role in this process as they meet with their 8-10 assigned trainees and provide formative feedback on the trainees' IDP. Our IDP manual has been shared with the NRMN for feedback and possibly contributing to their publication.

D. Responsible Conduct of Research

Descriptions of the TL4 trainees' training in RCR and their completion rate of the required online CITI training and 8 hours of face-to-face training are presented in Section G of this report.

Table 1. Cumulative Summary of BUILD TL4 Supported Undergraduate Students**BUILD-supported TL4 Student Participants (reporting period: Summer 2015 – Spring 2018)**

Academic Level	Total Number of students supported	Total Number of Students Graduated	Number of Students Currently Enrolled	Number of Students Who Withdrew
UG – Year 1	0	0	0	0
UG – Year 2*	60	0	60	0
UG – Year 3*	87 (42)	25	71	16†
UG – Year 4*	102 (52)	46‡	95	7
UG – Year 5*	-	-	-	-
TOTALS*	154	71	226	23

†Of the 16 students who withdrew from BUILD in Year 3, 11 were Scholars who did not continue into their 2nd year of the program and 5 were Associates (supported through the TL4 mechanism) who continued into the upper division RISE ($n=2$) and MARC ($n=3$) programs.

‡Scheduled to graduate in Spring 2018 (12 from Scholars 3 program, 6 Scholars who completed or who did not complete the 2-year program but did not enter our Scholars 3 program, 28 from Scholars 2 program).

*For the Total Number column, the numbers in parentheses () represent the number of students who received support in prior years of our TL4 to indicate new and continuing students supported through the TL4 award.

Table 2 – Outcome Information for BUILD TL4-supported Undergraduate Students

A. For Years 1 thru 4:	Number
A1. Total number of TL4 supported students	154
A2. Participated in academic year research experiences	154
A3. Participated in summer research experiences	145
A4. Entered Postbac program or working in a STEM Field	0
A5. Entered M.S. Graduate programs in a STEM Major*	3
A6. Entered Ph.D. Graduate programs in a STEM Major*	7
A7. Entered Medical School (M.D.) programs*	0
A8. Entered Dental (DDS) program*	0
A9. Entered Veterinary (DVM) program*	0
A10. Entered Pharmacy (PharmD) program*	0
A11. Entered MD-PhD Dual Degree Program*	0
A12. Entered Other Dual Degree program*	0
B1. Completed M.S. Degree Program	0
B2. Still in (M.S. or Ph.D.) graduate training	10
B3. Withdrew from (M.S. or Ph.D.) graduate training	0

*Includes only the number of BUILD TL4-supported students who entered a graduate school, post-bac program, professional school, or STEM occupation. Does not include BUILD TL4-supported students who applied or were accepted into a graduate program or professional school, a post-bac training program or other STEM related career but did not enter it.

Table 2. Participating Faculty Members

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Ahrens, Courtney	PhD	Professor	Psychology	Community Psychology	Other - Research Mentor
Alencar, Michelle	PhD	Assistant Professor	Kinesiology	Telemedicine	Other - Research Mentor
Asgari, Shadnaz	PhD	Associate Professor	Computer Engineering & Computer Science	Biomedical Signal Processing	Other - Research Mentor
Asvathanagul, Pitiporn	PhD	Assistant Professor	Civil Engineering and Construction Engineering Management	Molecular techniques	STC Training Director, Other - Research Mentor
Ayala, Perla	PhD	Assistant Professor	Biomedical Engineering	Developing therapeutic systems that promote optimal healing	Other - Research Mentor
Baezconde-Garbanati, Lourdes	PhD	Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Banuett, Flora	PhD	Professor	Biological Sciences	Molecular genetics	Other - Research Mentor
Barjasteh, Ehsan	PhD	Assistant Professor	Mechanical & Aerospace Engineering/Chemical Engineering	Health Monitoring of Biomaterials	Other - Research Mentor
Barrack, Michelle	PhD	Assistant Professor	Family & Consumer Sciences	Sports Nutrition	Other - Research Mentor
Bavarian, Niloofar	PhD	Assistant Professor	Health Science	Health Promotion	STC Training Director, Other - Research Mentor
Beneck, George	PhD	Associate Professor	Physical Therapy	Musculoskeletal disorders	Other - Research Mentor
Berhane, Kiros	PhD	Professor	Preventive Medicine (USC)	Environmental Health	Other - Research Mentor
Berlemont, Renaud	PhD	Assistant Professor	Biological Sciences	Bioinformatics	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Beyer, Christine	PhD	Associate Professor	Mechanical & Aerospace Engineering	Prosthetics Engineering	Other - Research Mentor
Bhandari, Deepali	PhD	Assistant Professor	Chemistry & Biochemistry	Cancer Signaling, Protein Biochemistry, Cell Biology	Other - Research Mentor
Bluthenthal, Ricky	PhD	Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Brusslan, Judy	PhD	Professor	Biological Sciences	Senescence genetics	Internal Advisory Board, Other - Research Mentor
Busciglio, Jorge	PhD	Professor	Neurobiology & Behavior (UCI)	Molecular mechanisms of neuronal degeneration in neurological conditions	Other - Research Mentor
Carter, Ashley	PhD	Associate Professor	Biological Sciences	Evolution, Sexual selection	Other - Research Mentor
Cerny, Kay	PhD	Professor	Physical Therapy	Gait Analysis	Other - Research Mentor
Chandra, Shailesh	PhD	Assistant Professor	Civil Engineering and Construction Engineering Management	Investigating impact of crowdsourcing on mode-shift behavior of college students	Other - Research Mentor
Chang, Jen-Mei	PhD	Associate Professor	Mathematics & Statistics	Informatics	Other - Research Mentor
Cheffer, Natalie	PhD, RN, CPNP	Associate Professor	School of Nursing	Research with vulnerable populations (children)	Other - Research Mentor
Cho, Young-Hee	PhD	Professor	Psychology	Cognitive demand	REC Co-Director, Other - Research Mentor
Chun, Chi-Ah	PhD	Professor	Psychology	Culture in the stress and coping process among Asian immigrants and refugees	Other - Research Mentor
Cotter, Joshua	PhD	Assistant Professor	Kinesiology	Muscle Growth	Other - Research Mentor
Demircan, Emel	PhD	Assistant Professor	Mechanical & Aerospace Engineering	Robotics, Biomechanics, Rehabilitation, Musculoskeletal Modeling	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Derakhshan, Shahab	PhD	Associate Professor	Chemistry & Biochemistry	Functional Materials	Other - Research Mentor
Dillon, Jesse	PhD	Professor	Biological Sciences	Oral Bacterial Biofilms	STC Director, Other - Research Mentor
DuBois, Zachary	PhD	Assistant Professor	Anthropology	Psychosocial Stress	Other - Research Mentor
Dunton, Genevieve	PhD	Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Eldon, Elizabeth	PhD	Associate Professor	Biological Sciences	Obesity, Gene Expression	Other - Research Mentor
Erlyana, Erylana	MD, PhD	Associate Professor	Health Care Administration	Health Disparities	Other - Research Mentor
Fisher, Amanda	PhD	Assistant Professor	Biological Sciences	Molecular Evolution, Transcriptome, Phylogenetics	Other - Research Mentor
Forouzeh, Mohammed	PhD	Professor	Health Science	Tobacco & Drug Treatment	Other - Research Mentor
Fraser, Deborah	PhD	Assistant Professor	Biological Sciences	Immunology, Inflammation	Other - Research Mentor
Galvan, Christine	PhD	Associate Professor	Kinesiology	Youth Physical Fitness	Other - Research Mentor
Galvez, Gino	PhD	Assistant Professor	Psychology	Applied Psychology	Other - Research Mentor
Gamble, Brandon	Ed.D.	Associate	Advanced Studies in Education & Counseling (ASEC)	A study regarding Black parents' self-report and attributions of success via them and their daughters	Other - Research Mentor
Gauderman, Jim	PhD	Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Gharakhanian, Editte	PhD	Professor	Biological Sciences	Molecular & Cellular Biology	Other - Research Mentor
Gonzalez, Araceli	PhD	Assistant Professor	Psychology	Anxiety/Depression	Other - Research Mentor
Gorman, Fiona Kawa	PhD	Assistant Professor	Health Science	Nutrition, Language Barriers	Other - Research Mentor
Gray, Virginia	PhD	Assistant Professor	Family & Consumer Sciences	Community Nutrition	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Grossman-Thompson, Barbara	PhD	Assistant Professor	International Studies	Health outcomes of women migrants from Nepal	Other - Research Mentor
Gruenewald, Tara	PhD	Associate Professor	FCS/Gerontology	Understand how socioeconomic and psychosocial factors affect health and well-being across the life course	Other - Research Mentor
Halim, May Ling	PhD	Assistant Professor	Psychology	Gender Stereotypes and Identity	Other - Research Mentor
Hall, Nancy	PhD	Associate Professor	Linguistics	Phonology and Phonetics	Other - Research Mentor
Hancock, Gabriella	PhD	Assistant Professor	Psychology	Projects that investigate humans' cognitive and physiological functioning when under stressful conditions	Other - Research Mentor
Harris, Michael	PhD	Assistant Professor	Biology	Metabolism and human exercise	Other - Research Mentor
Holland, Erika	PhD	Assistant Professor	Biological Sciences	Molecular Toxicology	Other - Research Mentor
Ireland, Connie	PhD	Professor	Criminology, Criminal Justice, & Emergency Management	Characteristics of probation officers (PO) and parole agents (PA)	Other - Research Mentor
Jarvo, Elizabeth	PhD	Professor	Chemistry (UCI)	Organic Synthesis	Other - Research Mentor
Johnson, Amber	PhD	Assistant Professor	Health Sciences	National Health and Nutritional Examination Survey (NHANES) and the Jackson Heart Study (JHS)	Other - Research Mentor
Johnson, Rey	PhD	Professor	Psychology		Other - Research Mentor
Khoo, I-Hung	PhD	Professor	Electrical Engineering	Biomedical Engineering	Other - Research Mentor
Kingsford, Laura	PhD	Professor	College Natural Sciences & Mathematics		PI
Kohfeldt, Danielle	PhD	Assistant Professor	Psychology	Formal and informal learning environments	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Krishnan, Vennila	PhD	Associate Professor	Physical Therapy	Biomechanics	Other - Research Mentor
Lanza, H. Isabella	PhD	Assistant Professor	Human Development	Health-Risk Behavior	STC Training Director, Other - Research Mentor
Leventhal, Adam	PhD	Associate Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Li, Lijuan	PhD	Professor	Chemistry & Biochemistry	Biomimetic inorganic chemistry, inorganic new materials, organometallics and inorganic nanomaterials.	Other - Research Mentor
Li, Linna	PhD	Assistant Professor	Geography	Geographic Information Science (GIS) and spatial analysis	Other - Research Mentor
Li, Yan	PhD	Assistant Professor	Mechanical and Aerospace Engineering	Mechanics of advanced materials	Other - Research Mentor
Livingston, Brian	PhD	Professor	Biological Sciences	Proteomic analysis of skeleton, Gene expression studies, Evolutionary genomics	Other - Research Mentor
Lo, Roger	PhD	Associate Professor	Chemical Engineering	Microreactor design	STC Training Director, Other - Research Mentor
Madrigal, Leilani	PhD	Assistant Professor	Kinesiology	Psychological needs assessment of injured collegiate athletes	Other - Research Mentor
Marayong, Panadda	PhD	Associate Professor	Mechanical & Aerospace Engineering	Rehabilitation	REC Director, Other - Research Mentor
McKean-Cowdin, Roberta	PhD	Assistant Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Mendez, Sergio	PhD	Associate Professor	Chemical Engineering	Microfluidics	Other - Research Mentor
Mezyk, Stephen	PhD	Professor	Chemistry & Biochemistry	Water treatment	Other - Research Mentor
Milam, Joel	PhD	Associate Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Miles, James	PhD	Assistant Professor	Psychology	Automation, eye tracking	Other - Research Mentor
Moon, Hojin	PhD	Professor	Mathematics & Statistics	Statistical Learning Methods, Animal Carcinogenicity/Tumorigenicity Studies	Other - Research Mentor
Mozumdar, Mohammad	PhD	Assistant Professor	Electrical Engineering		Other - Research Mentor
Nakayama, Kensaku	PhD	Professor	Chemistry & Biochemistry	Alzheimer's Disease, Butyrylcholinesterase, Enzyme Inhibitors, Organic Synthesis	Other - Research Mentor
Narayanasawami, Vas	PhD	Associate Professor	Chemistry & Biochemistry	Cholesterol Metabolism, Heart Disease, Alzheimer's Disease, Drug Delivery	Other - Research Mentor
Nguyen-Rodriguez, Selena	PhD	Assistant Professor	Health Science	Obesity Prevention In Minority Youth	REC Co-Director, Other - Research Mentor
Ojedaa-Aristizabal, Claudia	PhD	Assistant Professor	Physics & Astronomy	Nanotechnology	Other - Research Mentor
Ostergren, Jennifer	PhD	Associate Professor	Speech-Language Pathology	Speech-Language Pathology	Other - Research Mentor
Pace, Douglas	PhD	Assistant Professor	Biological Sciences	Parasitism	Other - Research Mentor
Pedersen, William	PhD	Professor	Psychology	Social Psychology	Other - Research Mentor
Rahai, Hamid	PhD	Professor	Mechanical & Aerospace Engineering		Other - Research Mentor
Rogala, Bridget	PhD	Lecturer	Health Science	Public Health, Addiction Medicine, Infectious Diseases	Other - Research Mentor
Rourke, Bryan	PhD	Associate Professor	Biological Sciences	Comparative Physiology Of Muscle	Other - Research Mentor
Roy, Roudi	PhD	Assistant Professor	Family & Consumer Sciences- Child Development & Family Studies	Child Development	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Roy, Surajit	PhD	Assistant Professor	Mechanical and Aerospace Engineering		Other - Research Mentor
Said, Hamid	Pharm.D., PhD	Professor	Medicine (UCI) Lab location: VA Long Beach	Physiology and Pathophysiology of Vitamin Absorption	Other - Research Mentor
Schick, Evan	PhD	Assistant Professor	Kinesiology	Cellular Mechanisms of Metabolic Syndrome	Other - Research Mentor
Schramm, Michael	PhD	Associate Professor	Chemistry & Biochemistry	Synthetic Membrane Receptors	Other - Research Mentor
Schug, Robert	PhD	Assistant Professor	Criminology, Criminal Justice, & Emergency Management	Forensic Psychology	Other - Research Mentor
Schwans, Jason	PhD	Assistant Professor	Chemistry & Biochemistry	Bio-Organic Chemistry	Other - Research Mentor
Shankar, Praveen	PhD	Associate Professor	Mechanical & Aerospace Engineering	Aerospace Engineering – Control Systems	Other - Research Mentor
Shon, Young-Seok	PhD	Professor	Chemistry & Biochemistry	Bio-Nanohybrids	Other - Research Mentor
Sinchak, Kevin	PhD	Associate Professor	Biological Sciences	Reproductive Biology	Other - Research Mentor
Slowinska, Katarzyna	PhD	Professor	Chemistry & Biochemistry	Drug Delivery	Other - Research Mentor
Sorin, Eric	PhD	Associate Professor	Chemistry & Biochemistry	Protein Folding	Other - Research Mentor
Spruijt-Metz, Donna	PhD	Professor	Center for Economic and Social Research (USC)	Mobile health, childhood obesity and minority populations	Other - Research Mentor
Sterling, Lindsey	PhD	Assistant Professor	Psychology	Autism, Anxiety, Depression, Comorbidity	Other - Research Mentor
Stout, David	PhD	Assistant Professor	Mechanical & Aerospace Engineering	Cardiovascular Nano-biomaterials Investigation of Sepsis on Neutrophils	Other - Research Mentor
Tapavicza, Enrico	PhD	Assistant Professor	Chemistry & Biochemistry	Computational Chemistry	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Tavassol, Hadi	PhD	Assistant Professor	Chemistry & Biochemistry	Chemistry and Materials Science to develop devices for a sustainable energy cycle	Other - Research Mentor
Tian, Fangyuan	PhD	Assistant Professor	Chemistry & Biochemistry	Drug Eluting Stent, Drug Delivery, Material Design, Catalysis	Other - Research Mentor
Treesukosol, Yada	PhD	Assistant Professor	Psychology	Taste cues and feeding behavior	Other - Research Mentor
Tsai, Houngh-Wei	PhD	Assistant Professor	Biological Sciences	Sexual Differentiation	Other - Research Mentor
Unger, Jennifer	PhD	Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Urizar, Guido	PhD	Professor	Psychology	Health Psychology, Behavioral Medicine, Psychoneuroendocrinology	PI, Other - Research Mentor
Vu, Kim	PhD	Professor	Psychology	Accessibility, Usability, Human Factors	Other - Research Mentor
Walters, Kellie	PhD	Assistant Professor	Kinesiology		Other - Research Mentor
Wang, Long	B. Medicine, PhD	Assistant Professor	Family & Consumer Sciences	Nutrition	Internal Advisory Board, Other - Research Mentor
Watanabe, Richard	PhD	Associate Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Wax, Amy	PhD	Assistant Professor	Psychology	Relation between quality of sleep and teamwork processes	Other - Research Mentor
Weers, Paul	PhD	Professor	Chemistry & Biochemistry	Lipoprotein Biochemistry	STC Training Director, Other - Research Mentor
Whisler, Daniel	PhD	Assistant Professor	Mechanical & Aerospace Engineering	Experimental & Numerical Impact Research & Engineering	Other - Research Mentor
Wilson, Melissa	PhD	Assistant Professor	Preventive Medicine (USC)	Preventive Medicine	Other - Research Mentor
Yang, Hengzhao	PhD	Assistant	Electrical Engineering	Brain computer interface (BCI)	Other - Research Mentor

Name	Degree(s)	Rank	Primary Department or Program	Research Interest	Training Role
Young, Kelly	PhD	Professor	Biological Sciences	Reproductive Biology	Other - Research Mentor
Yu, Ted	PhD	Assistant Professor	Chemical Engineering	Medical Device Batteries	Other - Research Mentor
Zavala, Arturo	PhD	Associate Professor	Psychology	Addiction	IDC Co-Director, Other - Research Mentor
Zhou, Tianni	PhD	Assistant Professor	Mathematics & Statistics	Applied Statistics Clinical Trials	Other - Research Mentor

Table 5C. Publications of Those in Training: Undergraduate-Scholars-TL4

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Ahrens, Courtney	Altamirano, Vanessa	Current	2016 - Present	Rodriguez, P., Altamirano, V. , Gomez, A., Ahrens, C. (2018, March) The Beliefs of Rape Myth Acceptance and Attitudes Towards Sexual Assault Based on Gender. Poster presented at Society of Personality and Social Psychology, Atlanta, GA
Ahrens, Courtney	Rodriguez, Patsy	Current	2016 - Present	Rodriguez, P. , Altamirano, V., Gomez, A. (2018, March) The Beliefs of Rape Myth Acceptance and Attitudes Towards Sexual Assault Based on Gender. Poster presented at Society for Personality and Social Psychology, Atlanta, Georgia
Asvapathanagul, Pitiporn	Stevens, Leela	Current	2017 - Present	No Publications: New entrant
Barjasteh, Ehsan	Harris, Jason	Current	2016 - Present	No Publications: Change of research supervisor
Barrack, Michelle	West, Jazmine	Current	2015 - Present	No Publications: Other
Beyer, Christiane	Jackson, Alexandra	Current	2016 – Present	Jackson, A. (2017, August) Semi-Automotive herbicide Distribution System. Poster presented at USRG Summer Research Symposium, College Station, Texas
Beyer, Christiane	Robles, Monica	Current	2015 – Present	Robles, M. , Desantiago, C., Rincon, J., Ray, S., Boland, T. (2017, December) Selective Binding of BSA in a Silica Matrix in the presence of Carbon Black. Poster presented at Biomedical Engineering Conference, Phoenix, AZ
				Robles, M. , Desantiago, C., Rincon, J., Ray, S., Bolan, T. (2017, August) Selective Binding of BSA in a Silica Matrix in the presence of Carbon Black. Poster presented at COURI Symposium, El Paso, TX
				Beyer, C., Robles, M. (2018, April) Design optimization and additive manufacturing of custom fit prosthetic sockets. Poster presented at RAPID + TCT, Fort Worth, TX

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Bhandari, Deepali	Kouris, Gregory	Current	2017 - Present	No Publication: Leave of absence
Bhandari, Deepali	Leal, Stephanie	Current	2017 – Present	Leal, S. , Bhandari, D. (2017, July) Optimization of GRP78 and GIV Sequential Fractionation Protocol. Poster presented at BUILD Summer Symposium, Long Beach, CA
				Leal, S. , Limso, C., Ngo, J. (2017, September) Characterization of GIV and GRP78. Poster presented at College of Natural Sciences and Mathematics (CNSM) Student Research Symposium, Long Beach, CA
Bhandari, Deepali	Yangildina, Vera	Current	2017 – Present	Yangildina , V. , Tran, A., Bhandari, D. (2017, September) Expression and Detection of Purified Protein Complexes: CDK5-p25/CDK5-p35. Poster presented at College of Natural Sciences and Mathematics (CNSM) Student Research Symposium, Long Beach, CA
Brusslan, Judy	Mendoza, Victor	Current	2015 – Present	No Publication: Other
Carter, Ashley	Henson, Katherine	Current	2017 – Present	Henson, K. , Carter, A. (2017, September) Effect of Previous Exposure to a Female of a Single Phenotype on Subsequent Male Mate Choice in <i>Drosophila melanogaster</i> . Poster presented at College of Natural Sciences and Mathematics (CNSM) Student Research Symposium, Long Beach, CA
Carter, Ashley	Rujchanarong, Denys	Current	2017 – Present	Rujchanarong, D. , Bangean, A. (2017, July) Effects of Varying Concentrations on the Solubility of Cholesterol Plaques. Poster presented at BUILD Summer Symposium, Long Beach, CA
Cotter, Joshua	Bhakta, Krishan	Current	2015 – Present	Bhakta, K. , Stade, M., Cotter, J. (2017, October) Affects of Pre-Workout consumption of Caffeine on Fatigue exercise testing. Poster presented at Southwest American Society of Sports Medicine, Long Beach, CA
				Bhakta, K. , Stade, M., Cotter, J. (2018, May) Affects of Pre-Workout consumption of Caffeine on Fatigue Exercise Testing.

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				Poster presented at American College of Sports Medicine, Minneapolis, MN
Cotter, Joshua	Brahmbhatt, Parth	Current	2017 – Present	Cotter, J., Brahmbhatt, P. , Poli, J. (2017, November) A Comparison of the Rectus Femoris, Biceps Femoris, and Erector Spinae Electromyography Activity in the Barbell Back Squat and Flywheel Squat exercises. Poster presented at the Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ
				Cotter, J., Brahmbhatt, P. , Poli, J. (2017, October) A Comparison of the Rectus Femoris, Biceps Femoris, and Erector Spinae Electromyography Activity in the Barbell Back Squat and Flywheel Squat exercises. Poster presented at Southwestern American College of Sports Medicine (SWACSM), Long Beach, CA
Cotter, Joshua	Poli, John-Edward	Current	2017 – Present	Poli, J. , Brahmbhatt, P., Cotter, J., Schick, E. (2017, July) Comparison of Muscle Activity During a Squat Exercise Using a Loaded Barbell. Poster presented at BUILD Summer Symposium, Long Beach, CA
				Poli, J. , Brahmbhatt, P., Cotter, J., Schick, E. (2015, October) Comparisons of Vastus Lateralis and Biceps Femoris Activity During Loaded Barbell and Flywheel Squat Exercises. Poster presented at Southwest Chapter for the American College of Sports Medicine (SWACSM), Long Beach, CA
				Poli, J. , Brahmbhatt, P., Cotter, J., Schick, E. (2017, July) Comparison of Muscle Activity During a Squat Exercise Using a Loaded Barbell. Poster presented at BUILD Summer Symposium, Long Beach, CA
Dillon, Jesse	Acedo, Ismael	Current	2017 – Present	Acedo, I. , Hernandez, R., Herbert, S., Dillon, J. (2017, July) Assessing differences in multiple antibiotic resistance of total coliforms during dry and wet weather at beaches with differing wave action. Poster presented at BUILD Summer Symposium, Long Beach, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Dillon, Jesse	Gilligan, Ariel	Current	June 2017 – Present	Gilligan, A., Dillon, J. (2017, July) Assessing Differences in Bacterial Content of Male and Female Urobatis halleri Spines Between Seal Beach and Colorado Lagoon. Poster presented at BUILD Summer Symposium, Long Beach, CA
DuBois, Zachary	McNeill, Juvonne (Jayvien)	Past	2016 – 2018	No Publication: Left program
DuBois, Zachary	Pedro, Phoenix	Current	2017 - Present	No Publication: New Entrant
DuBois, Zachary	Walker, Tian	Current	2016 - Present	Walker, T., McNeill, J., Dubois, Z. (2017, December) Misgendering Experiences of Transgender Men: findings from the Transition Experience Study. Poster presented at American Anthropological Association (AAA), Washington DC Walker, T., Dubois, Z. (2018, February) Blood Pressure Variability Across Situational Environments Among Transgender Men with Transition-Related Social Stress. Poster presented at California State University, Long Beach (CSULB) Student Research Competition, Long Beach, CA
Eldon, Elizabeth	Villalba, Jacquelyn	Current	2017 - Present	Villalba, J., Molina, A., Eldon, E. (2017, November) Screen Development to analyze Interactions of 18-wheeler Gene Mutations and X-Linked chromosome Deficiencies. Poster presented at Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ Villalba, J. (2018, March) Genetic Internship Between 18-wheeler and X-linked Chromosome Deficiencies. Poster presented at BUILD Symposium , Long Beach, CA
Erlyana, Erlyana	Bush, Kenneth	Current	2017 - Present	Bush, K. (2017, November) Health Student Readiness to assess the needs of Refugees: An Assessment of Cultural Humility. Poster presented at Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Erlyana, Erlyana	Torres, Michael	Past	2016 - 2017	No Publication: Left program
Fraser, Deborah	Cheong, Rudolph	Current	2016 - Present	No Publication: Other
Fraser, Deborah	Curiel, Lizette	Current	2016 - Present	No Publication: Other
Fraser, Deborah	Espericueta, Nora (Vicky)	Current	2016 - Present	Espericueta, N. , Manughuian-Peter, A., Fraser, D. (2017, July) Testing Mutant C1q. a Potential Novel Therapeutic for Lupus. Poster presented at BUILD Summer Symposium, Long Beach, CA
Fraser, Deborah	Huynh, Jessica	Current	2016 - Present	No Publication: Leave of absence
Fraser, Deborah	Lam, Laurel	Current	2015 - Present	No Publication: Other
Fraser, Deborah	Pardo, Paulina	Current	2015 - Present	Pardo, P. , Wong, A., Ho, M., Fraser, D. (2017, November) Innate immune protein C1q modulates cytokine and chemokine levels in atheroscler. Poster presented at Autumn Immunology Conference, Chicago, IL
Galvez, Gino	Liska, Hannah	Current	2016 - Present	Liska, H. , Galvez, G. (2017, July) A Descriptive Analysis of STEM Student's Career Purpose Orientation and Academic Performance. Poster presented at BUILD Summer Symposium, Long Beach, CA
				Liska, H. (2018, February) The Impact of Work Values on Science Career Interest in Undergraduate STEM Students. Poster presented at California State University, Long Beach (CSULB) Student Research Competition, Long Beach, CA
				Liska, H. (2018, May) The Impact of Work Values on Science Career Interests in Undergraduate STEM Students. Poster presented at California State University (CSU) Student Research Competition, Sacramento, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				<p>Liska, H., Enriquez, M., Zamora, O., Galvez, G. (2018, April) The Impact of Work Values on Science Careers in Undergraduate Students. Poster presented at Western Psychological Association, Portland, OR</p> <p>Enriquez, M., Liska, H., Zamora, O., Galvez, G. (2018, April) Relationship Between Intrinsic Motivation and Science Identity. Poster presented at Western Psychological Association, Portland, OR</p>
Galvez, Gino	Phun, Vicky	Current	2016 - Present	<p>Phun, V., Pan, S., Lovelett, J., Rickard, T. (2017, August) Examining interleaved practice versus blocked practice for Spanish verb conjugations. Poster presented at Summer Research Conference at University of California, San Diego, La Jolla, CA</p> <p>Phun, V., Pan, S., Lovelett, J., Rickard, T. (2017, November) Effect of interleaving versus blocking on learning Spanish verb conjugation in the preterite and imperfect tenses presented at Southern California Conferences for Undergraduate Research, Pomona, CA</p> <p>Galvez, G., Jackson, M.C., Phun, V. (2018, January) Examining the relationship between scientist stereotypes and science identity: A mixed methods analysis. Poster presented at Annual Hawaii International Conference on Education, Honolulu, HI</p> <p>Jeanmarie, L., Phun, V., Barajas, R., Zavala, L., Lee, G., Flores, R., Jackson, M.C., Galvez, G. (2018, April) Examining interpersonal belonging and science identity among newly underrepresented minorities. Poster presented at Western Psychological Association, Portland, OR</p> <p>Jeanmarie, L., Phun, V., Barajas, R., Zavala, L., Lee, G., Flores, R., Jackson, M.C., Galvez, G. (2018, March) Examining Interpersonal Belonging in Science Identity Among Newly Underrepresented Minorities. Poster presented at BUILD Annual Symposium, Long Beach, CA</p>

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Gharakhanian, Editte	Alvarado, Carlos	Current	2016 - Present	No Publication: Other
Gharakhanian, Editte	Ricci, Anthony	Current	2016 – Present	Ricci, A. , Manandhar, S., Siddiqah, I., Gharakhanian, E. (2017, November) Sufficiency of Saccharomyces cerevisiae ENV9 Hydrophobic Domain on Lipid Droplet Protein Localization. Poster presented at Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ
				Ricci, A. , Manandhar, S., Gharakhanian, E. (2017, July) Sufficiency of Saccharomyces cerevisiae ENV9 Transmembrane Domain Sequence on Env9 protein localization to the Lipid Droplet Protein. Poster presented at BUILD Summer Symposium, Long Beach, CA
				Ricci, A. (2018, February) The Hydrophobic Domain of ENV9 is a Lipid Droplet Targeting Sequence in Saccharomyces cerevisiae. Poster presented at California State University, Long Beach (CSULB) Research Competition, Long Beach, CA
				Ricci, A. (2018, March) Examining the sufficiency of the hydrophobic domain of Saccharomyces cerevisiae ENV9 on lipid droplet localization. Poster presented at BUILD Annual Symposium , Long Beach, CA
Gonzalez, Araceli	Barajas, Maria	Current	2015 – Present	Barajas, M.J. , Gonzalez, A. (2017, May) Links between automatic thoughts and internalizing symptoms. Poster presented at Western Psychological Association, Portland, OR
Gray, Virginia	Chiong, Reah	Current	2017 – Present	No Publication: New entrant
Gray, Virginia	Lin, Stephanie	Current	2016 - Present	Lin, S. , O'Connor , S., Ra, K., Ramirez, L., Dunton, G. (2017, July) Assessment of longitudinal dietary intake among school aged children in the Mothers' And Their Children's Health study presented at BUILD Symposium , Long Beach, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				<p>Lin, S., Gray, V., Singh-Carlson, S., Cheffer, N., Chery, S. (2017, October) Community-Based Study of Food, Feeding, and Opportunity in Rural Haiti. Poster presented at Food and Nutrition Conference and Expo , Chicago, IL</p> <p>Lin, S., Rafferty, A., Nguyen, J., Gray, V., Nguyen-Rodriguez, S., Barrack, M. (2017, October) Parental Perceptions of Snacking Environment in Youth Sports. Poster presented at Food and Nutrition Conference and Expo , Chicago, IL</p> <p>Lin, S., Gray , V., Galvan , C., Ede, A. (2018, March) Development of a Female Leadership Academy to Improve Positive Body Image and Eating Competence. Poster presented at BUILD Symposium, Long Beach, CA</p> <p>Lin, S., Gray, V., Galvan , C., Ede, A., Rodriguez, A. (2018, April) Efficacy of Female Leadership Academy (FLA) in Promoting Positive Body Image and Eating Attitudes in Middle School Girls. Poster presented at Western Psychological Association, Portland, OR</p> <p>Lin, S., Gray, V., Galvan , C., Ede, A., Rodriguez, A. (2018, May) A Qualitative Analysis of a Nutrition and Physical Activity Intervention Focused on Promoting Eating Competence and Body Satisfaction. Poster presented at California Academy of Nutrition and Dietetics Conference, Pomona, CA</p> <p>Gray, V., Rafferty, A., Nguyen, J., Barrack, M., Rodriguez-Nguyen, S., Lin, S. (2018, February) Parents Report Competing Priorities Influence Snack Choices in Youth Sports: In-Depth Group Interview Findings. <i>Journal of Nutrition Education and Behavior</i>. Status: Under Review</p>
Halim, May Ling	Rodriguez, Tania	Current	2016 - Present	Rodriguez, T. , Zinnser, K., Curby, W. (2017, July) Getting on the same page: Preschool-home communication to support children's social-emotional learning. Poster presented at Illinois Summer Research Symposium, Chicago, IL

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				Rodriguez, T. , Portillo, M., Zambrano, J., Halim, M., Wang, J. (2018, APR) Do you support me? Social support and sports participation among diverse youth. Poster presented at Western Psychological Association, Portland, OR
Hall, Nancy	Orellana, Irene	Current	2017 - Present	No Publication: New Entrant
Hall, Nancy	Vasquez, Nancy	Past	2016 - Present	Llorens, M., Byrd, D., Vasquez, N. , Sorensen, T., Toutios, A., Narayanan, S. (2017, December) Indexing tongue profile narrowing for English lateral consonants using 3D volumetric MR imaging. Poster presented at Meeting of the Acoustical Society of America , New Orleans, LA
Hall, Nancy	Villegas, Coleen	Current	2017 - Present	No Publication: Change of research supervisor
Holland, Erika	Alfaro, Jorge	Current	2017 - Present	Alfaro, J. (2017, November) Measuring Changes of Prolactin Expression by Gene Regulator DREAM (Downstream Regulator Element Antagonist Modulator) in Response to Exposures of PCB95 and Triclosan. Poster presented at Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ
Holland, Erika	de Orla-Barile, Marian	Current	2015 - Present	de Orla-Barile, M. , Appleton, S., Holland, E. (2017, October) Storm Drain Filtration Mechanism Efficiency Study: Los Angeles River Pilot Sampling. Poster presented at Society for the Advancement of Chicanos and Native Americans in Science, Salt Lake City, UT
				de Orla-Baril, M. , Appleton , S., Holland, E. (2017, July) Storm Drain Filtration Mechanism Efficiency Study: Los Angeles River Pilot Sampling. Poster presented at California State University, Long Beach BUILD 3rd Annual Summer Symposium , Long Beach, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				<p>de Orla-Barile, M., Appleton, S., Holland, E. (2018, February) Los Angeles River Storm Drain Filtration Mechanism Efficiency Study Part I: Water Quality in Reach 3 of the Los Angeles River. Poster presented at California State University, Long Beach 30th Annual Student Research Competition, Long Beach, CA</p> <p>de Orla-Barile, M., Appleton, S., Lorenzi, V., Holland, E. (2018, April) Los Angeles River Storm Drain Filtration Mechanism Efficiency Study Part I: Water Quality in Reach 3 of the Los Angeles River. Poster presented at Southern California Society of Environmental Toxicology and Chemistry Spring Meeting, Los Angeles, CA</p>
Johnson, Amber	Tanner, Shai	Current	2015 - Present	No Publication: Change of research supervisor
Khoo, I-Hung	Kim, Do (Diane)	Current	2016 - Present	Kim, D. , Khoo, I., Marayong, P., Krishnan, V. (2017, October) Improvements to Walk-Even Rehabilitation Device for Post-Stroke Patients. Poster presented at SACNAS, Salt Lake City, UT
Kohfeldt, Danielle	Makary, Kativon	Current	2017 - Present	No Publication: New Entrant
Krishnan, Vennila	Aburub, Kadisha	Current	2015 - Present	Aburub, K. (2018, March) The effects of fatigue on corticospinal excitability on the fibularis longus muscle: a pilot study. Poster presented at California State University, Long Beach, BUILD Symposium, Long Beach, CA
Lanza, H. Isabella	Pittman, Patricia	Current	2015 - Present	Pittman, P. , Beauchaine, T. P. (2017, July) Children's Cardiac Responding to Incentives Predicts Growth in Ineffective Parenting Across Three Annual Assessments. Poster presented at Ohio State University Summer Research Opportunities Program Summer Symposium, Columbus, OH

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				Lanza, H.I., Pittman, P. , Batshoun, J. (2017, September) Obesity and Cigarette Smoking: Extending the Link to E-Cigarette/Vaping Use. <i>American Journal of Health Behavior</i> . 41(3):338-347. Status: Published
				Pittman, P. , Lanza, H.I. (2017, July) Does self-control moderate the relationship between stress and depression among college students? Poster presented at BUILD Summer Symposium, Long Beach, CA
				Lanza, H. I., Pittman, P. , Hser, Y. (2018, February) Mothers still matter: The role of family context on obese adolescents' risk of internalizing symptoms. <i>Youth and Society</i> . Status: Under Review
Livingston, Brian	Lopez, Lupita	Current	2015 - Present	Lopez, L. , Flores, R., Livingston, B. (2017, September) The Skeletal Proteome of <i>Eucidaris Tribuloides</i> Test and Spine. Poster presented at CNSM Student Research Symposium, Long Beach, CA
Lo, Roger	Esqueda, Genesis	Current	2015 - Present	No Publication: Other
Lo, Roger	Grosvirt-Dramen, Adam	Current	2016 - Present	Grosvirt-Dramen, A. (2017, August) Plasm-Fluidic Biosensor for Real-Time Single Cell Immunophenotyping. Poster presented at Summer Research Program Poster Session, New York City, NY
				Grosvirt-Dramen, A. (2017, November) UV-curable PDMS for Additive Manufacturing of Microfluidic Devices. Poster presented at Southern California Conferences for Undergraduate Research, Pomona, CA
Marayong, Panadda	Maldonado, Jairo	Current	2015 - Present	Maldonado-Contreras, J. , Marayong, P., Khoo, I.h., Ruhe, B., Wu, W. (2017, November) Proprioceptive Improvement of Lower-Limb Amputees under Training with a Vibrotactile Device - A Pilot Study. Poster presented at Healthcare Innovations and Point-of-Care Technologies (HIPOCT) Conference, Bethesda, MD

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Mendez, Sergio	Karwa, Talha	Current	2017 - Present	Karwa, T. , Milo, A., Bernal, M., Mendez, S. (2017, October) Development of a Non-invasive Medical Device for Detection of Type II Diabetes Using Biofluorescent Molecules. Poster presented at Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS), Salt Lake City, UT
Mezyk, Stephen	Watts, Landon	Current	2016 - Present	Watts, L. , Gleason, J., Ishida, K., Mezyk, S. (2018, March) Trichloramine Reactivity with Amino Acids Under Wastewater Treatment Conditions. Poster presented at American Chemical Society National Meeting and Expo, New Orleans, LA
Miles, James	Hollearn, Martina	Current	2017 - Present	No Publication: New Entrant
Nakayama, Kensaku	Dang, Hoang	Current	2015 - Present	Dang, H. , Flores, M., Schmidt, V. (2017, August) Photocycloadditions of Electronically Unbiased Alkenes. Poster presented at University of California, San Diego, Summer Research Conference, San Diego, CA
				Dang, H. , Flores, D., Schmidt, V. (2017, September) Photocycloadditions of Electronically Unbiased Alkenes Using a Transition Metal Catalyst. Poster presented at California State University, Long Beach, College of Natural Sciences and Mathematics Symposium, Long Beach, CA
Nguyen-Rodriguez, Selena	Figuroa, Wilma	Current	2017 - Present	Figuroa, W. , Yomogida, K., Mendez, J., Bavarian, N. (2017, November) Prescription stimulant misuse avoidance self-efficacy: correlates and moderation by race/ethnicity. Poster presented at SCCUR (Southern California Conference for Undergraduate Research Students), Pomona, CA
Nguyen-Rodriguez, Selena	Garcia, Melany	Current	2016 - Present	Garcia, M. , Ceballos, R., Rivera, G., Parry, D., Hohl, S., Malen, S., Perez, G. (2017, August) Addressing Psychosocial Disparities Among Rural Hispanic Cancer Survivors. Poster presented at Fred Hutchinson Cancer Research Center's Poster Session, Seattle, WA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				<p>Garcia, M., Ceballos, R., Rivera, G., Parry, D., Hohl, S., Malen, S., Perez, G. (2017, November) Addressing Psychosocial Disparities among Rural Hispanic Cancer Survivors. Poster presented at Annual Biomedical Research Conference for Minority Students , Phoenix, AZ</p> <p>Garcia, M., Nguyen-Rodriguez, S. (2017, November) Insomnia and Memory Prescription Medication Use among Clinically vs. Non-Clinically Depressed Cancer Survivors. Poster presented at Southern California Conference for Undergraduate Research, Pomona, CA</p>
Pace, Douglas	Chetsawang, Jason	Current	2016 - Present	<p>Chetsawang, J. (2017, July) Over-Expression of a Putative Calcium-Binding Protein (TgCBP1) Results in Loss of Invasion Efficiency in the Human Parasite, <i>Toxoplasma gondii</i>. Poster presented at BUILD Summer Research Symposium, Long Beach, CA</p> <p>Chetsawang, J. (2017, November) Over-Expression of a Putative Calcium-Binding Protein (TgCBP1) Results in Loss of Invasion Efficiency in the Human Parasite, <i>Toxoplasma gondii</i>. Poster presented at Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ</p> <p>Chetsawang, J. (2017, December) Over-Expression of a Putative Calcium-Binding Protein (TgCBP1) Results in Loss of Invasion Efficiency in the Human Parasite, <i>Toxoplasma gondii</i>. Poster presented at Southern California Eukaryotic Pathogen Conference, Riverside, CA</p>
Pace, Douglas	Pouv, Amara	Current	2016 - Present	<p>Pouv, A., Ohanian, A., Tran, T., Pace, D. (2017, July) Using the Aerobic Enzyme, Citrate Synthase, to Understand Biogeographical Dispersal Potential in Echinoid Echinoderm Larvae. Poster presented at BUILD Summer Symposium, Long Beach, CA</p> <p>Pouv, A., Ohanian, A. (2017, September) Using the Aerobic Enzyme, Citrate Synthase, to Understand Biogeographical Dispersal Potential in Echinoid Echinoderm Larvae. Poster</p>

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				presented at College of Natural Science and Mathematics Student Research Symposium, Long Beach, CA
				Pouv, A. , Ohanian, A., Pace, D. (2017, November) Using the Aerobic Enzyme, Citrate Synthase, to Understand Biogeographical Dispersal Potential in Echinoid Echinoderm Larvae. Poster presented at Annual Biomedical Research Conference for Minority Students, Phoenix, AZ
				Pouv, A. , Ohanian, A., Pace, D. (2018, January) Using the Aerobic Enzyme, Citrate Synthase, to Understand Biogeographical Dispersal Potential in Echinoid Larvae. Poster presented at The Society for Integrative & Comparative Biology Annual Meeting , San Francisco, CA
Pace, Douglas	Salladay, Ivan	Current	2017 - Present	Salladay, I. , Monohan, C., Pace, D. (2017, November) Understanding the importance of protein synthesis during different stages of the lytic cycle in the human parasite, Toxoplasma Gondii. Poster presented at Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ
				Salladay, I. , Monohan, C., Pace, D. (2017, July) Understanding the importance of protein synthesis during different stages of the lytic cycle in the human parasite, Toxoplasma Gondii. Poster presented at BUILD Summer Symposium, Long Beach, CA
Pace, Douglas	Sandoval Olmos, Dalia	Current	2016 - Present	Sandoval Olmos, D. , Meepe, I., Chetsawang , J. (2017, November) Overexpression of a calcium binding protein (CBP2) causes enhanced invasion during the bloodstream stage of Toxoplasma gondii. Poster presented at ABRCMS, Phoenix, AZ
Pedersen, William	Avila, Tatiana	Current	2016 - Present	Bashaw, D., Gunderson, C., Pedersen, W.C., Flores, R.F., Abbate, E., Avila, T. , Chester, C., Contreras, M., Ellison, J.M., Geraci, G. (2018, March) Aggressing Against Our Own: Rumination Type Moderates The Effect Of Collective Narcissism On Displaced Aggression Towards In-Group

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				Targets. Poster presented at Society for Personality and Social Psychology, Atlanta, GA
				Gunderson, C.A., Flores, R.F., Pedersen, W.C., Abbate, E., Avila, T. , Chester, C., Contreras, M., Geraci, G., Jeynes, L., Kotico, V. (2018, March) Blinded By Anger: Collective Rumination Increases Displaced Aggression Toward In-Group But Not Out-Group Targets. Poster presented at Society for Personality and Social Psychology, Atlanta, GA
Rourke, Bryan	Chhotani, Mashal	Current	2017 - Present	No Publication: New Entrant
Rourke, Bryan	Mathew, Sherin	Current	2017 – Present	Matthew, S. , Chhotani, M., Thong, S., Gutierrez, I., Bjornstad, A. (2017, July) Characterizations of Myosin Types in Mice Bred for High Wheel Running Behavior. Poster presented at BUILD Summer Symposium, Long Beach, CA
Rourke, Bryan	Thong, Sylvia	Current	2017 – Present	No Publication: Leave of absence
Roy, Roudi	Darden, Megan	Current	2017 - Present	Walker, A., Roudi, R., Rogers, M., Mitchell, Y., Wyatt, P., Darden, M. (2017, November) Invisible Sacrifices: The Lived Experiences of Black Fathers in College. Poster presented at NCFR (National Conference of Family Relationships), Orlando, FL
Roy, Roudi	Luna, Andrea	Current	2017 – Present	No Publication: New Entrant
Roy, Roudi	Mayasa-Hailey, Afriyah	Current	2017 – Present	Mayasa-Hailey, A. , Darden, M. (2018, March) Pregnancy Intentions as a Barrier to being an Involved African American Father. Poster presented at Society for Personality and Social Psychology, Atlanta, GA
Roy, Roudi	Roger, Malik Xavier	Current	2015 – Present	No Publication: Other

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Said, Hamid	Geltz, Erica	Current	2017 – Present	No Publication: New Entrant
Said, Hamid	Thompson, Morgan	Current	2017 - Present	Thompson, M. , Anandam, K., Srinivasan, P., Said, H. (2017, July) Molecular Mechanisms for Adaptive Regulation of Human Colonic Thiamin Pyrophosphate (TPP) Uptake Process Following Short-Term Cell Stress. Poster presented at California State University, Long Beach, BUILD Summer Symposium, Long Beach, CA
Schug, Robert	Alfaro, Kenya	Current	2015 - Present	Alfaro, K. (2017, October) Change of Mitochondrial Morphology in RSV Infected MH-S Cells using STORM. Poster presented at Biomedical Engineering Society Conference, Phoenix, AZ
				Alfaro, K. (2017, July) Change of Mitochondrial Morphology in RSV Infected MH-S Cells using STORM. Poster presented at College of Engineering Research Experience for Undergraduates Poster Symposium, Athens, GA
Schwans, Jason	Chau, Noel	Current	2015 - Present	Chau, N. , Colla, A., Schwans, J. (2018, April) Investigation of a Series of Fluorotyrosines in Peptides via Solid Phase Peptide Synthesis. Poster presented at American Society of Biochemistry and Molecular Biochemistry, San Diego, CA
				Chau, N. , Colla, A., Schwans, J. (2018, February) Investigation of a Series of Fluorotyrosines in peptides via Solid Phase Synthesis. Poster presented at California State University, Long Beach, Research Competition, Long Beach, CA
Schwans, Jason	Hoil, Jesus	Past	2017 - 2018	No Publication: Left program
Shankar, Praveen	Sanchez, Anthony	Current	2016 - Present	No Publication: New Entrant

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Shon, Young-Seok	Park, Eun Ae	Current	2016 - Present	No Publication: Other
Sinchak, Kevin	Feri, Micah Mae	Current	2015 - Present	Feri, M. , Tominna, R., Sinchak, K. (2017, November) Dopamine receptor D1 is in close proximity with progesterone receptor and src kinase complex to mediate estradiol signaling in the arcuate nucleus of the hypothalamus. Poster presented at Society for Neuroscience, Washington, DC
				Feri, M. , Bermami, S., Sinchak, K. (2018, March) Dopamine receptor D1 is in close proximity with progesterone receptor and Src kinase complex to mediate progesterone signaling in the arcuate nucleus of the hypothalamus. Poster presented at American Society for Neurochemistry, Riverside, CA
Sinchak, Kevin	Patel, Salina	Current	2015 - Present	No Publication: Other
Slowinska, Katarzyna	Urfano, Selina	Current	2015 - Present	Ayalew, L., Acuna, J., Urfano, S. , Morfin, C., Sablan, A., Oh, M., Gamboa, A., Slowinska, K. (2017, July) Conjugation of Paclitaxel to Hybrid Peptide Carrier and Biological Evaluation in Jurkat and A549 Cancer Cell Lines. <i>American Chemical Society Medicinal Chemistry Letters</i> , 8, 814-819. Pub Med ID: 28835794 Status: Published
Sterling, Lindsey	Johnson, Preston	Current	2016 - Present	Johnson, P. , Rosen, N., Laugeson, E. (2018, August) Symptoms of depression as a predictor of outcome among young adults with ASD following the UCLA PEERS intervention. Poster presented at American Psychological Association, San Francisco, CA
				Josephson, P., Johnson, P. , Rosen, N., Laugeson, E. (2018, August) Social anxiety and quality of social engagement skills among adolescents with ASD following the UCLA PEERS Intervention. Poster presented at American Psychological Association, San Francisco, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				Wu, J., Johnson, P. , Rosen, N., Laugeson, E. (2018, May) Examining the relation between social anxiety and quality of social engagement skills among adolescents with ASD following the UCLA PEERS intervention. Poster presented at International Society for Autism Research, Rotterdam, Netherlands
Stout, David	Cubillo, Edgar	Current	2016 - Present	Cubillo, E. , Stout, D. (2017, October) Biocompatibility Comparison of Islets Encapsulated in Alginate Derived from Various Brown Seaweeds. Poster presented at Society for Advancement of Chicanos/Hispanics & Native Americans in Science, Salt Lake City, UT
				Cubillo, E. , Stout, D. (2018, February) Biocompatibility Comparison of Islets Encapsulated in Alginate Derived from Various Brown Seaweeds presented at USC DORI, Los Angeles, CA
				Cubillo, E. , Ngo, S., Juarez, A., Gagan, J., Lopez, G., Stout, D. (2017) Embryonic stem cell therapy applications for autoimmune, cardiovascular, and neurological diseases: A review. <i>AIMS Cell and Tissue Engineering</i> , 1(3), 191-223. Status: Published
Stout, David	Gagan, Joshuah	Current	2015 - Present	Cubillo, E., Ngo, S., Juarez, A., Gagan, J. , Lopez, G., Stout, D. (2017) Embryonic stem cell therapy applications for autoimmune, cardiovascular, and neurological diseases: A review. <i>AIMS Cell and Tissue Engineering</i> , 1(3), 191-223. Status: Published
Stout, David	Ngo, Sang (Jennifer)	Current	2015 - Present	Ngo, S. (2017, May) Antibacterial properties and toxicity from metallic nanomaterials. <i>International Journal of Nanomedicine</i> . 12, 3941-3965. Status: Published
				Ngo, S. (2017, November) Electrical Simulation Promotes Osteoblast Proliferation within Collagen and Graphene Fiber Composites. Poster presented at Undergraduate Women in Physical Sciences, Lincoln, NE

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				Cubillo, E., Ngo, S. , Juarez, A., Gagan, J., Lopez, G., Stout, D. (2017) Embryonic stem cell therapy applications for autoimmune, cardiovascular, and neurological diseases: A review. <i>AIMS Cell and Tissue Engineering</i> , 1(3), 191-223. Status: Published
Tapavicza, Enrico	Nilakantan, Shiva	Current	2015 - Present	Nilakantan, S. , Smith, A., Jordan, M. (2017, September) An Investigation of Replica Exchange Molecular Dynamics and Absorption Spectra of Molecules in Smog. Poster presented at College of Natural Sciences and Mathematics Student Research Symposium, Long Beach, CA
Tapavicza, Enrico	Redd, Kenneth K.	Current	2017 - Present	Redd, K. , Tapavicza, E. (2017, November) Photochemical Reactivity and Reaction Mechanisms of 1,4-Cyclohexadiene: A Theoretical Approach. Poster presented at Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ
				Redd, K. , Tapavicza, E. (2017, September) Photochemical Reactivity and Reaction Mechanisms of 1,4-Cyclohexadiene: A Theoretical Approach. Poster presented at College of Natural Sciences and Mathematics Student Research Symposium, Long Beach, CA
				Redd, K. , Tapavicza, E. (2017, July) Photochemical Reactivity and Reaction Mechanisms of 1,4-Cyclohexadiene: A Theoretical Approach. Poster presented at BUILD Summer Symposium, Long Beach, CA
Tavassol, Hadi	Santiago, Peter Joseph	Current	2017 - Present	Santiago, P.J. (2017, July) An Economical Electrocatalyst for Energy Storage Hydrogen Bonds in Renewable Energy Systems. Poster presented at BUILD Summer Symposium , Long Beach, CA
				Santiago, P.J. , Araiza, S . (2017, September) Sustainable Energy Storage in Chemical Bonds. Poster presented at College of Natural Sciences and Mathematics Student Research Symposium, Long Beach, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				<p>Santiago, P.J. (2018, February) Hydrogen A Renewable Chemical Fuel. Poster presented at Undergraduate Research Competition , Long Beach, CA</p> <p>Santiago, P.J. (2018, March) Sustainable Energy in Chemical Bonds. Poster presented at Annual BUILD Symposium, Long Beach, CA</p>
Tian, Fangyuan	Aviles, Johana	Current	2017 - Present	Aviles, J., Tian, F. (2017, July) Anti-Diabetic Encapsulation via Multifunctional Metal Organic Framework Hollow Spheres. Poster presented at California State University, Long Beach, BUILD Summer Symposium, Long Beach, CA
Tsai, Houg-Wei	Quitiquit, John	Current	2017 - Present	Quitquit, J., Kim, E., Houg-Wei, T. (2017, July) Investigation of Sexual Dimorphism in SFSWAP Distribution in the Developing Mouse Cerebral Cortex and Hippocampus. Poster presented at BUILD Summer Symposium, Long Beach, CA
Tsai, Houg-Wei	Ramos, Layla	Current	2015 - Present	Ramos, L., Henson, R., Tsai, H. (2017, September) Regulation of Sexually dimorphic Calbindin Protein Expression in Non-Reproductive Regions of the Forebrain in the Developing Mouse. Poster presented at College of Natural Sciences and Mathematics Student Symposium, Long Beach, CA
Urizar, Guido	Miranda, Wendy	Current	2017 - Present	Miranda, W., Urizar, G. (2017, November) Environmental Influences on Physical Activity among Low-Income Mothers. Poster presented at ABRCMS, Phoenix, AZ
Vu, Kim	Jones, Destyn	Current	2017 - Present	No Publication: New Entrant
Wang, Long	Goh, Vivianna	Current	2016 - Present	Goh, V., Zolfaghari, S., Wang, L. (2017, April) Hormonal Birth Control, Vitamins, & Depression: Examining the Intakes of Vitamin B12, B6, and Folic Acid in Contraceptive Users. Poster presented at California Academy of Nutrition and Dietetics, McClellan Park, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				<p>Goh, V., Sorkin, D., Biegler, K., Kilgore, D., Dow, E., Rook, K. (2017, August) The Effects of Stress and Depression in Diabetic Latinas. Poster presented at UCI Summer Symposium, Irvine, CA</p> <p>Goh, V., Sorkin, D., Biegler, K., Kilgore, D., Dow, E., Rook, K. (2018, April) The Detrimental Effects of Stress in a Sample of High-Risk, Low-Income Latinas. Poster presented at Society of Behavioral Medicine, New Orleans, LA</p> <p>Goh, V., Sorkin, D., Biegler, K., Kilgore, D., Dow, E., Rook, K. (2018, February) Too Stressed to Test: Associations between Stress and Diabetes Control in a Sample of High-Risk Latinas. Poster presented at USC Diabetes and Obesity Research Institute, Los Angeles, CA</p> <p>Valent, F., Wang, L., McMicken, B., Rock, C., Goh, V. (2017, November) Taste Testing in a Pediatric Case of Congenital Aglossia. <i>OMICS: Communication Disorders, Deaf Studies, and Hearing Aids</i>,5(3), 4. Status: Published</p> <p>Goh, V., Biegler, K., Dow, E., Kilgore, D., Rook, K., Sorkin, D. (2018, April) Associations Between Stress and Diabetes Hassles in a Sample of High Risk, Low-Income Latinas. Poster presented at Western Psychological Association (WPA), Portland, OR</p> <p>Goh, V., Valent, F., Wang, L. (2018, May) Taste Testing in a Case of Pediatric Case of Congenital Aglossia. Poster presented at California Academy of Nutrition & Dietetics (CAND), Pomona, CA</p>
Weers, Paul	Tran, Angela	Past	2016 - Present	Tran, A. , Weers, P., Shah, K. (2017, September) The Role of Lysine 52 and 54 in the Stability of Apolipoprotein III. Poster presented at College of Natural Sciences and Mathematics Symposium, Long Beach, CA

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
				Tran, A. , Weers, P., Shah, K. (2017, July) The Role of Lysine 52 and 54 in the Stability of Apolipoprotein III. Poster presented at BUILD Summer Symposium, Long Beach, CA
Yu, Ted	Higgwe, Tamunotelema (TJ)	Current	2016 - Present	Higgwe, T. , Walker, D., Nguyen, E. (2017, August) Creating a bioabsorbable sodium-ion Battery cell utilizing Sulfur-Polyacrylonitrile Cathodes. Poster presented at American Chemical Society Annual Conference, Washington, D.C. Walker, D., Higgwe, T. (2017, October) Optimization of Electrolytes for Use in Bioabsorbable Sodium-Ion Batteries. Poster presented at Society for Advancement of Chicanos/Hispanics & Native Americans in Science, Salt Lake City, UT
Yu, Ted	Ly, Quang (Leo)	Current	2016 - Present	Ly, Q. , Merinov, B., Xiao, H., Goddard, W. (2017, October) The Oxygen Reduction Reaction on Graphene from Quantum Mechanics: Comparing Armchair and Zigzag Carbon Edges. <i>The Journal of Physical Chemistry</i> , 44, 24408-24417. Status: Published
Yu, Ted	Thai, Edward	Current	2016 - Present	Thai, E. , Pardo, E., Trinh, B., Norng, C., Novoa, B. (2017, November) Investigation of Oxidizing Graphene Halides for Li/S Batteries. Poster presented at IEEE Green Energy and Smart Systems Conference, Long Beach, CA
Yu, Ted	Walker, Dejuante	Current	2016 - Present	Walker, D. , Higgwe, T. (2017, October) Optimization of Electrolytes for Use in Bioabsorbable Sodium-Ion Batteries. Poster presented at Society for Advancement of Chicanos/Hispanics & Native Americans in Science, Salt Lake City, UT Walker, D. , Higgwe, T., Thai, E. (2017, June) Optimization of Electrolytes for Use in Bioabsorbable Sodium-Ion Batteries. Poster presented at Electrochemical Society, New Orleans, LA
Zavala, Arturo	Brown, Yohanna	Current	2016 - Present	Brown, Y. , Manoogian, A., Geraghty, C., Zavala, A. (2018, March) Oxycodone-induced Conditioned Place Preference in Early Adolescent Male and Female Rats. Poster presented at San Antonio, TX

Faculty Member	Trainee Name	Past or Current Trainee	Training Period	Publication (Authors, Year, Title, Journal, Volume, Inclusive Pages) Presentation (Authors, Year, Title, Meeting, Location)
Zavala, Arturo	Manoogian, Adam	Current	2015 - Present	Farrell, M.r., Ruiz, C.m., Schoc, H., Huang, J., Cevallos, J., Castillo, E., Manoogian, A. , Rojas, G., Jung, K., Moreno-Sanz, G. (2017, August) The DREADDED weed: Chemogenetic dissection of dopamine function after adolescent cannabinoid receptor stimulation presented at Gordon Research Conference: Cannabinoid Function in the CNS, Waterville Valley, NH
Zavala, Arturo	Mehta, Rhea	Current	2016 - Present	Mehta, R. (2017, November) Effects of neonatal caffeine exposure on locomotor activity in adolescent rats: Role of methylphenidate pretreatment. Poster presented at Society for Neuroscience, Washington D.C.
Zavala, Arturo	Richard, Chyann	Current	2016 - Present	Richard, C. , Crown, L., Wiegand, J.p., Bartlett, M.j., Falk, T., Cowen, S.l. (2017, August) Altered Sleep Spindles in a LRRK2 Mouse Model of Parkinson's Disease. Poster presented at Undergraduate Research Opportunities Consortium Symposium, Tucson, AZ
				Richard, C. , Ratanapatrum, J., West, J., Barrack, M. (2017, November) Validation of a Nutrition Screening Survey. Poster presented at Annual Biomedical Research Conference, Phoenix, AZ
				Richard, C. , West, J., Ratanapatrum, J., Barrack, M. (2018, February) Validation of a Nutrition Screening Survey to Identify Nutritional Risks Associated with the Female Athlete Triad. Oral presentation at California State University, Long Beach, Student Research Competition, Long Beach, CA

Table 8D. Program Outcomes: Undergraduate**Part I. Those Appointed to the Training Grant**

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Acedo, Ismael	Dillon, Jesse	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Assessing the MAR index of coliforms isolated from Long Beach Beaches during wet and dry weather from sites restricted & non-restricted wave action	N/A	N/A	N/A
Berrios, Matthew	Dillon, Jesse	07/2016	TY3: RL5	Did not continue as BUILD student Expected BS in 2020	The effectiveness of Hypochlorous Acid on removing E. faecalis biofilms.	N/A	N/A	N/A
Brown, Yohanna	Zavala, Arturo	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Role of GLP1 in Oxycodone Reward	N/A	N/A	N/A
Chin, Michael	Mezyk, Stephen	07/2016	TY3: RL5 TY4: MARC T34	Still an undergrad Expected BS in 2019	Kinetic Study of the Degradation of Organophosphate Flame Retardants	N/A	N/A	N/A
Chung, Megan	Rourke, Bryan	07/2016	TY3: RL5	Did not continue as BUILD student	Comparative physiology of muscle	Unknown	Unknown	N/A
Cubillo, Edgar	Stout, David	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Encapsulation of mice islets	N/A	N/A	N/A
Espericueta, Nora	Fraser, Deborah	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Testing mutant C1q's ability to shift macrophage polarization to an inflammatory phenotype	N/A	N/A	N/A
Figueroa, Patricia Elyssa Tiamzon	Narayanasawami, Vas	07/2016	TY3: RL5	Did not continue as BUILD student	Analysis of Apolipoprotein A1	Unknown	Unknown	N/A
Figueroa, Wilma	Nguyen-Rodriguez, Selena	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Examining Correlates of Personality Characteristics, Psychological Distress, Religiosity, and Prescription Stimulant Avoidance Self-Efficacy	N/A	N/A	N/A
Henson, Katherine	Carter, Ashley	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Male mate choice after previous exposure to a female of a particular phenotype	N/A	N/A	N/A
Higgwe, Tamunotelema	Yu, Ted	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Biodegradable batteries	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Kim, Do (Diane)	Khoo, I-Hung	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	PCB Printing	N/A	N/A	N/A
Kouris, Gregory	Bhandari, Deepali	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Purification of CDK5 and GIV proteins	N/A	N/A	N/A
Loo, Christian	Schwans, Jason	07/2016	TY3: RL5 TY4: MARC T34	Still an undergrad Expected BS in 2019	Expanding the Use of Tyrosine Phenol Lyase and the Biosynthesis of Unnatural Amino Acids	N/A	N/A	N/A
Martinez, Stephany	Fraser, Deborah	07/2016	TY3: RL5	Did not continue as BUILD student	Modulation of inflammasome activity in the presence of exogenous and endogenous C1Q	Unknown	Unknown	N/A
Mehta, Rhea (Sanghani)	Zavala, Arturo	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Neonatal Caffeine Exposure on Adolescent Rats	N/A	N/A	N/A
Monroy, Joel	Slowinska, Katarzyna	07/2016	TY3: RL5 TY4: MARC T34	Still an undergrad Expected BS in 2019	Gene cassette delivery via col/cpp coupled to promote lysis in E.coli	N/A	N/A	N/A
Ngo, Jordan	Bhandari, Deepali	07/2016	TY3: RL5 TY4: MARC T34	Still an undergrad Expected BS in 2019	Characterization of the Interaction between GIV and GRP78 During ER Stress	N/A	N/A	N/A
Nguyen, Khanh (Tina)	Narayanaswami, Vas	07/2016	TY3: RL5	Did not continue as BUILD student Expected BS in 2019	The spatial organization of apoE4 on reconstituted high density lipoprotein (RHDL) via crosslinking and fluorescence spectroscopy	N/A	N/A	N/A
Novales, Noelle Alexa	Schwans, Jason	07/2016	TY3: RL5 TY4: RISE R25	Still an undergrad Expected BS in 2019	Evaluating the Effects of Varying Organic Cosolvents of Enzyme Inhibition of Butyrylcholinesterase	N/A	N/A	N/A
Portillo, Miguel	Halim, May Ling	07/2016	TY3: RL5	Did not continue as BUILD student Expected BA in 2019	Comparing child gender attitudes toward STEM-related activities	N/A	N/A	N/A
Pouv, Amara	Pace, Douglas	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Using the Aerobic Enzyme & Citrate Synthase to understand Biogeographical Dispersal Potential in Echinoid Echinoderm Larvae	N/A	N/A	N/A
Ricci, Anthony	Gharakhanian, Editte	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Studying gene orthologs responsible for trafficking proteins in yeast	N/A	N/A	N/A
Ruiz, Carlos	Gharakhanian, Editte	07/2016	TY3: RL5	Did not continue as BUILD student	Analysis of ENV7 in Vacuolar Function	Unknown	Unknown	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Sanchez, Anthony	Shankar, Praveen	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Dynamic Virtual Reality Environment for Biomedical Research	N/A	N/A	N/A
Sanchez, Nia	Krishnan, Vennila	07/2016	TY3: RL5	Did not continue as BUILD student	Gait and Posture	Unknown	Unknown	N/A
Sandoval Olmos, Dalia	Pace, Douglas	07/2016	TY3: RL5	Did not continue as BUILD student	Calcium Regulation in Toxoplasma gondii	Unknown	Unknown	N/A
Terry, Jessica	Hall, Nancy	07/2016	TY3: RL5	Did not continue as BUILD student	Child speech perception	Unknown	Unknown	N/A
Tran, Angela	Weers, Paul	07/2016	TY3: RL5 TY4: TL4	Did not continue as BUILD student Expected BS in 2019	Role of Lysine 52 and 54 in the Stability of Apolipoprotein III	N/A	N/A	N/A
Walker, Dejuante	Yu, Ted	07/2016	TY3: RL5 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Biodegradable Sodium-Ion Battery	N/A	N/A	N/A
Yang, Yeji	Zavala, Arturo	07/2016	TY3: RL5	Did not continue as BUILD student Expected BA in 2018	Alcohol and Nicotine Addiction Reward in Rats	N/A	N/A	N/A
Ybanez, Kyle	Eldon, Elizabeth	07/2016	TY3: RL5	Did not continue as BUILD student	Studying High Fat Diet in Drosophila melanogaster	Unknown	Unknown	N/A
Altamirano, Vanessa	Ahrens, Courtney	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Cultural influences on inmate partner violence.	N/A	N/A	N/A
Alvarado, Carlos	Gharakhanian, Editte	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Studying the variability of ENV7 during cell cycles	N/A	N/A	N/A
Avila, Tatiana	Pedersen, William	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Aggression and Intergroup Relations	N/A	N/A	N/A
Cheong, Rudolph	Fraser, Deborah	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Characterizing Differences Between C1q Sufficient and C1q Deficient Macrophages - C1q modulates oxysterol formation in macrophages	N/A	N/A	N/A
Chetsawang, Jason	Pace, Douglas	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Pathogen Physiology Of Toxoplasma gondii	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Curiel, Lizette	Fraser, Deborah	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Measuring kinetics of lysosomal maturation in mouse macrophages during ingestion of modified lipoproteins with and without Clq	N/A	N/A	N/A
Daniels, Paul Marc	Wax, Amy	06/2016	TY3: TL4	Did not continue as BUILD student	The Effect of Sleep on Relationships within Work Teams	Unknown	Unknown	N/A
Ema, Yeasmin	Grossman-Thompson, Barbara	06/2016	TY3: TL4	Did not continue as BUILD student Expected BS in 2019	Nepali Migrant Labor	N/A	N/A	N/A
Garcia, Melany	Nguyen-Rodriguez, Selena	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Adiposity in Latino Youth	N/A	N/A	N/A
Goh, Vivianna	Wang, Long	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Does Bilingualism as cognitive reserve in Alzheimer's patients extend to taste detection?	N/A	N/A	N/A
Gomez, Zaira	Brusslan, Judy	06/2016	TY3: TL4	Did not continue as BUILD student	Investigating The Role of a Defense Protein (At5g48657) and a Peptide Transporter (At5g46050) During Leaf Senescence	Unknown	Unknown	N/A
Grosvirt-Dramen, Adam	Lo, Roger	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	A 3-D Printed Micro-fluidic device for Alginate Microbead Synthesis	N/A	N/A	N/A
Johnson, Preston	Sterling, Lindsey	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Helping Adults with Autism Process Emotions (HAPPE)	N/A	N/A	N/A
Lin, Stephanie	Gray, Virginia	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Development of a Female Leadership Academy focused on promoting positive body image	N/A	N/A	N/A
Liska, Hannah	Schug, Robert	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Jeffrey Dahmer Case Study	N/A	N/A	N/A
Ly, Quang (Leo)	Yu, Ted	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Quantum Mechanics Simulation	N/A	N/A	N/A
McNeill, Juvonne	DuBois, Zachary	06/2016	TY3: TL4 TY4: TL4	Did not continue as BUILD student Expected BA in 2018	Biocultural Research Lab - Transgender Experience Study	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Park, Eun Ae	Shon, Young-Seok	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Synthesis of graphene oxide hybrid glutathione capped gold nano rods	N/A	N/A	N/A
Phun, Vicky	Galvez, Gino	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	SCIENCE Image Study: Understanding students' perceptions about STEM fields and seeing whether they continue to pursue this career	N/A	N/A	N/A
Richard, Chyann	Barrack, Michelle	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Nutrition Cooking Demo Intervention	N/A	N/A	N/A
Rodriguez, Patsy	Ahrens, Courtney	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Intimate Partner Violence: Mexican American and Caucasian Women	N/A	N/A	N/A
Rodriguez, Tania	Halim, May Ling	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Sports Participation Among Adolescents	N/A	N/A	N/A
Thai, Edward	Yu, Ted	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Halide Doped Graphene to Improve Lithium Sulfur Battery	N/A	N/A	N/A
Vasquez, Nancy	Hall, Nancy	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	CHILDES Project	N/A	N/A	N/A
Walker, Tian	DuBois, Zachary	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Transition Experience Study: Blood pressure variability among trans men with transitioning identity stress	N/A	N/A	N/A
Watts, Landon	Mezyk, Stephen	06/2016	TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Trichloramine reactions with amino acids under advanced oxidation process conditions	N/A	N/A	N/A
Aburub, Kadisha	Brusslan, Judy	06/2015	TY1: RL5 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	The study of Leaf Senescence	N/A	N/A	N/A
Alfaro, Kenya	Schug, Robert	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Brain Signal patterns and its Adversary Affects	N/A	N/A	N/A
Araque, Nissa	Brusslan, Judy	08/2015	TY2: RL5	Did not continue as BUILD student Expected BS in 2019	The study of Leaf Senescence	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Arciva, Stephanie	Mezyk, Stephen	08/2015	TY2: TL4 TY3: RISE R25 TY4: RISE R25	Still an undergrad Expected BS in 2018	Waste water remediation	N/A	N/A	N/A
Arendas, Anthony	Roy, Roudi	08/2015	TY2: TL4	Did not continue as BUILD student None	Experiences and expectations of African American fathers	N/A	N/A	N/A
Barajas, Maria	Gonzalez, Araceli	08/2015	TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Promotoras	N/A	N/A	N/A
Bryant, Amanda	Livingston, Brian	08/2015	TY2: TL4	Did not continue as BUILD student None	Analyzing wasting syndrome caused by viruses in <i>Patiria miniata</i> and <i>Apostichopus parvimensis</i>	N/A	N/A	N/A
Chau, Noel	Schwans, Jason	06/2015	TY1: RL5 TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Developing an Efficient Approach for the Incorporation of a Series of Fluorotyrosines in Peptides.	N/A	N/A	N/A
de Orla-Barile, Marian	Holland, Erika	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	New Storm Drain Filtration Mechanism Efficiency Study for the Los Angeles River	N/A	N/A	N/A
Ethridge, Jeremy	Stout, David	08/2015	TY2: TL4	Did not continue as BUILD student	Designing and building a condom testing apparatus	Unknown	Unknown	N/A
Feri, Micah Mae	Sinchak, Kevin	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	G protein-coupled estrogen receptor 1 (GPER) is found in the plasma membrane and cytoplasmic fractions of tissue from the arcuate nucleus of the hypothalamus	N/A	N/A	N/A
Gagan, Joshuah	Stout, David	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Manufacturing of Artificial Tissues using hybrid biomaterials and a low-cost three-dimensional printer	N/A	N/A	N/A
Gleason, Jamie	Mezyk, Stephen	08/2015	TY2: TL4 TY3: MARC T34 TY4: MARC T34	Still an undergrad Expected BS in 2018	Studying the kinetics of chloramine reactions in treated wastewater	N/A	N/A	N/A
Gomez, Zaira	Brusslan, Judy	08/2015	TY2: TL4	Did not continue as BUILD student	The study of Leaf Senescence	Unknown	Unknown	N/A
Gonzalez Plazola, Javier	Krishnan, Vennila	08/2015	TY2: RL5	Did not continue as BUILD student	biofeedback device to improve gait asymmetry	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
				Expected BS in 2018				
Gracia, Luis	Fraser, Deborah	08/2015	TY2: TL4	Did not continue as BUILD student	Investing Modulation of Cell Death by C1q	Unknown	Unknown	N/A
Guzman, Noah	Tsai, Houn-Wei	08/2015	TY2: RL5	Did not continue as BUILD student	Assess the identity of proteins which are differentially expressed between female and male mice using a large scale proteomics approach	Unknown	Unknown	N/A
Harris, Jason	Barjasteh, Ehsan	08/2015	TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Integration of bragg fiber optic sensors in cfrp composites	N/A	N/A	N/A
Ho, Stella	Gharakhanian, Editte	08/2015	TY2: TL4	Did not continue as BUILD student	Lysosomal Trafficking, Biogenesis, and Function	Unknown	Unknown	N/A
Hur, Hye	Acey, Roger	08/2015	TY2: TL4	Did not continue as BUILD student	Microreactor design	Unknown	Unknown	N/A
Huynh, Jessica	Fraser, Deborah	06/2015	TY1: RL5 TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	pHrodo Red Kinetics	N/A	N/A	N/A
Jackson, Alexandra	Beyer, Christiane	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Assistive Hand Device for Hemiparesis Patients	N/A	N/A	N/A
Lee, Tiffany	Beyer, Christiane	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student	Artificial Skin with Application to Prosthetics	Unknown	Unknown	N/A
Lopez, Sandra	Nguyen-Rodriguez, Selena	08/2015	TY2: RL5	Did not continue as BUILD student	Obesity Prevention In Minority Youth	Unknown	Unknown	N/A
Maldonado, Jairo	Marayong, Panadda	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Rehabilitative Technology for Transtibial Amputees	N/A	N/A	N/A
Manoogian, Adam	Zavala, Arturo	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Role of 5-HT1B in Oxycodone Reward	N/A	N/A	N/A
Ngo, Sang (Jennifer)	Stout, David	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Biocompatibility of 3D printed bone structures	N/A	N/A	N/A
Nguyen, Nhi	Tapavicza, Enrico	08/2015	TY2: TL4 TY3: MARC T34	Still an undergrad (Left MARC) Expected BS in 2019	Calculating the static circular dichroism spectrum of provitamin D	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Nilakantan, Shiva	Barjasteh, Ehsan	06/2015	TY1: RL5 TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Exploring Thermal Degradation of Polybenzoxazine	N/A	N/A	N/A
Patel, Salina	Sinchak, Kevin	08/2015	TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Investigating sub-population of beta endorphin neurons in the arcuate	N/A	N/A	N/A
Phung, Khai	Marayong, Panadda	08/2015	TY2: RL5	Did not continue as BUILD student Expected BS in 2019	Haptic trackball device for hand and finger rehabilitation	N/A	N/A	N/A
Pittman, Patricia	Lanza, H. Isabella	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Vape Shop Observation	N/A	N/A	N/A
Ramirez, Jennifer	Schwans, Jason	08/2015	TY2: TL4 TY3: MARC T34 TY4: MARC T34	Still an undergrad Expected BS in 2018	Evaluating fmoc-amino acids as selective inhibitors of the enzyme butyrylcholinesterase	N/A	N/A	N/A
Tanner, Shai	Tsai, Houg-Wei	08/2015	TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Age effects on the skeletal muscle of mice breed to run on wheels	N/A	N/A	N/A
Tran, Ai	Marayong, Panadda	08/2015	TY2: TL4	Did not continue as BUILD student Expected BS in 2019	Design of a haptic-feedback input device for hand rehabilitation	N/A	N/A	N/A
Tyler, Elizabeth	Young, Kelly	08/2015	TY2: TL4	Did not continue as BUILD student	The effect MCP-1 and CCR2 expression on photoperiods change of Siberian hamsters	Unknown	Unknown	N/A
Velez, Christopher	Pace, Douglas	08/2015	TY2: TL4	Did not continue as BUILD student	Studying the free amino acid pool of <i>Toxoplasma Gondii</i>	Unknown	Unknown	N/A
Vinh, Jennifer	Dillon, Jesse	08/2015	TY2: TL4 TY3: RISE R25 TY4: RISE R25	Still an undergrad Expected BS in 2018	The effect of chemical irrigants on oral biofilms	N/A	N/A	N/A
Arevalo, Natalie	Asgari, Shadnaz	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	Still an undergrad Expected BS in 2018	Cerebral Blood Flow Velocity Pulse Onset Detection: A comparative Study	N/A	N/A	N/A
Bhakta, Krishan	Cotter, Joshua	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	Still an undergrad (in training) Expected BS in 2018	Caffeine effects on Resistance Training	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
			TY4: TL4					
Dang, Hoang	Nakayama, Kensaku	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Synthesis of organophosphorous dual binding-site inhibitors of acetylcholinesterase	PhD student, Organic Chemistry, UC Riverside, Further Training (Accepted)	N/A	N/A
Estrada, Adrien	Eldon, Elizabeth	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student None	The effects of gut microbacteria on the immune response of obese fruit flies raised on a high-fat diet	Unknown	Unknown	N/A
Esqueda, Genesis	Lo, Roger	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	SpectriColor Meter	N/A	N/A	N/A
Lam, Laurel	Fraser, Deborah	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Investigating Modulation of Cell Death by Innate Immune Protein C1q	N/A	N/A	N/A
Leyba, Katherine	Khoo, I-Hung	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	Still an undergrad Expected BS in 2018	Gate symmetry in stroke patients	N/A	N/A	N/A
Lopez, Lupita	Livingston, Brian	06/2015	TY1: RL5 TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Structural Functional Analysis of HSV-1 Protein ICP27	N/A	N/A	N/A
Marquez, Tanya	Dillon, Jesse	06/2015	TY1: RL5 TY2: RL5* TY2: TL4	Did not continue as BUILD student Expected BS in 2018	Determining Physiological Characteristics of Photobacterium in Death Valley	N/A	N/A	N/A
Mendoza, Victor	Brusslan, Judy	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Disease Resistant Protein and Leaf Senescence	N/A	N/A	N/A
Pardo, Paulina	Fraser, Deborah	06/2015	TY1: RL5 TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Role of C1q in murine model of atherosclerosis	N/A	N/A	N/A
Ramos, Layla	Tsai, Houg-Wei	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Androgenic Regulation of Sexually Dimorphic Calbindin Expression in the Developing Mouse Cerebral Cortex and Hippocampus	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Robles, Monica	Beyer, Christiane	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	3-D custom fit, breathable transtibial prosthetic socket	N/A	N/A	N/A
Rodriguez, Anthony	Pace, Douglas	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student Expected BS in 2019	Metabolic character of <i>Dendroaster excentricus</i> larvae	N/A	N/A	N/A
Rogers, Malik	Roy, Roudi	06/2015	TY1: RL5 TY2: RL5 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BA in 2018	Experience and Expectations of First Time African American Fathers	N/A	N/A	N/A
Tamimi, Aminah	Demircan, Emel	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	Still an undergrad Expected BS in 2018	SpectriColor Meter	N/A	N/A	N/A
Teafatiller, Trevor	Said, Hamid	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	Still an undergrad Expected BS in 2019	Enteroid cell culture methods to characterize SVCT (vitamin C transporter)	N/A	N/A	N/A
Urfano, Selina	Slowinska, Katarzyna	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Studying membrane protein responsible for pathogenicity in Brucella	N/A	N/A	N/A
West, Jazmine	Barrack, Michelle	06/2015	TY1: TL4 TY2: TL4 TY3: TL4 TY4: TL4	Still an undergrad (in training) Expected BS in 2018	Prevalence and Predictors of Disordered Eating among A Diverse Group of College Freshman	N/A	N/A	N/A
Basi, Rohin	Weers, Paul	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Lipoprotein biochemistry	N/A	N/A	N/A
Carpentier, Sydney	Pedersen, William	07/2017	TY4: RL5	Still an undergrad (in training) Expected BA in 2020	Collective Rumination 4	N/A	N/A	N/A
Castro, Alexis	Treesukosol, Yada	07/2017	TY4: RL5	Still an undergrad (in training) Expected BA in 2020	The developmental effect of fluoxetine on feeding behavior	N/A	N/A	N/A
Chakkalakal, Jini	Eldon, Elizabeth	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Obesity, Gene Expression	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Geraghty, Cassandra	Zavala, Arturo	07/2017	TY4: RL5	Still an undergrad (in training) Expected BA in 2020	Sex Differences in Oxycodone Reward	N/A	N/A	N/A
Godinez, Bianca	Hall, Nancy	07/2017	TY4: RL5	Still an undergrad (in training) Expected BA in 2020	Speech Perception in New Words	N/A	N/A	N/A
Gutierrez, Elizabeth	Alencar, Michelle	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	The efficacy of a Telemedicine-based Weight Loss Program With Video Conference Health Coaching Support	N/A	N/A	N/A
Hargrove, Richard	Tian, Fangyuan	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Drug Eluting Stent, Drug Delivery, Material Design, Catalysis	N/A	N/A	N/A
Hernandez Vasquez, Adriana	Schug, Robert	07/2017	TY4: RL5	Still an undergrad (in training) Expected BA in 2020	EEG Data Collection on Go No-Go Task	N/A	N/A	N/A
Hernandez, Katrina	Slowinska, Katarzyna	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Drug delivery	N/A	N/A	N/A
Kibret, Elroi	Stout, David/ Ayala, Perla	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Nanomaterial application in cardiovascular engineering	N/A	N/A	N/A
Lucero, Robert	Johnson, Amber	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	NHANES & Jackson Heart Study	N/A	N/A	N/A
Martinez, Maya	Demircan, Emel	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Honda R&D -Japan	N/A	N/A	N/A
Medrano, Alexis	Rourke, Bryan	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Comparative Physiology Of Muscle	N/A	N/A	N/A
Mendoza, Matthew	Asvathanagul, Pitiporn	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Waste water treatment	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Napasindayao, Don	Marayong, Panadda	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Rehabilitation	N/A	N/A	N/A
Nguyen, Jeffrey	Ayala, Perla	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Integration of biomaterials with cells	N/A	N/A	N/A
Nguyen, Tiffany	Cheffer, Natalie	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Research with vulnerable populations (children)	N/A	N/A	N/A
Nguyen, Tracy	Erlyana, Erlyana	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Aging perception	N/A	N/A	N/A
Pena, Justin	Stout, David	07/2017	TY4: RL5	Did not continue as BUILD student Expected BS in 2020	Cardiovascular nano-biomaterials investigation of sepsis on neutrophils	N/A	N/A	N/A
Robles, Charlene-Mei	Cotter, Joshua	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Flywheel Vs. Standard Barbell Squat: Pilot Study	N/A	N/A	N/A
Sar, Marissa	Chun, Chi-Ah	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Asian/Asian American and Mental Health	N/A	N/A	N/A
Tang, Christine	Lo, Roger	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Design and Construction of an open source instrument for chemical and biological applications	N/A	N/A	N/A
Ugalde, Diego	Demircan, Emel	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Haptics	N/A	N/A	N/A
Whisman, Frederick	Demircan, Emel	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Lower body walking support	N/A	N/A	N/A
Yen, Cheston	Demircan, Emel	07/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2020	Haptic Interface with Virtual Reality - JACO arm	N/A	N/A	N/A
Alfaro, Jorge	Holland, Erika	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Investigating cellular response to environmental pollutants such as ncPCBs and triclosan; with future prospect of including TBBPA	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Aviles, Johana	Tian, Fangyuan	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Antidiabetic Drug Encapsulation via MOF Hollow Spheres	N/A	N/A	N/A
Brahmbhatt, Parth	Cotter, Joshua	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	A Comparison of the Rectus & Biceps Femoris, and Erector Spinae Electromyography Activity in the Barbell Back & Flywheel Squat exercises	N/A	N/A	N/A
Bush, Kenneth	Erlyana, Erlyana	06/2017	TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Cultural Competency among German and CSULB students	N/A	N/A	N/A
Chhotani, Mashal	Rourke, Bryan	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Determine whether fitness can be passed on from generation to generation by looking at skeletal and cardiac muscles of mice	N/A	N/A	N/A
Chiong, Reah	Gray, Virginia	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	SUPER Kids: A Family-Based Intervention to Improve Nutrition and Physical Activity Habits amongst Parents and Children	N/A	N/A	N/A
Darden, Megan	Roy, Roudi	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Invisible sacrifices of black fathers in college	N/A	N/A	N/A
Geltz, Erica	Said, Hamid	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	The effects of TNF (alpha) in Vitamin B1 Absorption	N/A	N/A	N/A
Gilligan, Ariel	Dillon, Jesse	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Assessing Differences in Bacterial Content of Male & Female Urubatis hallen Spines Between Seal Beach & Colorado Lagoon	N/A	N/A	N/A
Hoil, Jesus	Schwans, Jason	06/2017	TY4: TL4	Did not continue as BUILD student	Efficacy of Inhibition of Various 9-Fluorenylmethoxycarbonyl Fmoc Derived Inhibitors for Butyrylcholinesterase	Unknown	Unknown	N/A
Hollearn, Martina	Miles, James	06/2017	TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Self-efficacy, coping, GRIT, and student success	N/A	N/A	N/A
Jones, Destyn	Vu, Kim	06/2017	TY4: TL4	Still an undergrad (in training) Expected BA in 2019	User's interpretation of pharmaceutical pictograms	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Karwa, Talha	Mendez, Sergio	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Creating a low-cost diagnostic device that can detect Type II diabetes using non-invasive methods	N/A	N/A	N/A
Leal, Stephanie	Bhandari, Deepali	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Characterization of GIV-GRP78 Interaction During ER Stress	N/A	N/A	N/A
Luna, Andrea	Roy, Roudi	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Role of familial support of parenting stress on student parents	N/A	N/A	N/A
Makary, Kativon	Kohfedt, Danielle	06/2017	TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Pathways to activism: Recognizing white privilege	N/A	N/A	N/A
Mathew, Sherin	Rourke, Bryan	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Understanding whether Fitness can be heritable in mice muscles	N/A	N/A	N/A
Mayasa-Hailey, Afriyah	Roy, Roudi	06/2017	TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Motherhood and the role of race, ethnicity, and relationship status	N/A	N/A	N/A
Miranda, Wendy	Urizar, Guido	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Environmental Influences on Physical Activity Among Low-Income Mothers	N/A	N/A	N/A
Orellana, Irene	Hall, Nancy	06/2017	TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Comparing monolinguals' and bilinguals' speech	N/A	N/A	N/A
Pedro, Phoenix	DuBois, Zachary	06/2017	TY4: TL4	Still an undergrad (in training) Expected BA in 2019	Misgendering of trans men	N/A	N/A	N/A
Poli, John-Edward	Schick, Evan/Cotter, Joshua	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	The effects of different fly wheel exercises on muscles	N/A	N/A	N/A
Quitiquit, John	Tsai, Houn-Wei	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Investigation of Sexual Dimorphism in Rbm 48 in developing cerebral cortex and hippocampus	N/A	N/A	N/A
Redd, Kenneth	Tapavicza, Enrico	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Photochemical Reactivity and Reaction Mechanisms of 1,4-Cyclohexadiene	N/A	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Rujchanarong, Denys	Carter, Ashley	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Effects of Varying Concentrations on the Solubility of Cholesterol Plaques	N/A	N/A	N/A
Salladay, Ivan	Pace, Douglas	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Understanding the toxoplasma gondii's ability to invade after exposure to a protein inhibitor to assess invasion protein synthesis	N/A	N/A	N/A
Sandoval Olmos, Dalia	Pace, Douglas	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Studying cellular biology of the Apicomplexan parasite, Toxoplasma gondii and host cell interaction on parasite calcium regulation	N/A	N/A	N/A
Santiago, Peter Joseph	Tavassol, Hadi	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Developing synthesis methods of nanomaterials for Transition Metal Dichalcogenides	N/A	N/A	N/A
Stevens, Leela	Asvapathanagul, Pitiporn	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Investigation of filamentous bacteria in a full-scale nitrifying and denitrifying activated sludge process	N/A	N/A	N/A
Thompson, Morgan	Said, Hamid	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Molecular Mechanisms for Adaptive Regulation of Colonic TPP	N/A	N/A	N/A
Thong, Sylvia	Rourke, Bryan	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Understanding whether Fitness can be heritable in mice muscles	N/A	N/A	N/A
Villalba, Jacquelyn	Eldon, Elizabeth	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Drosophila melanogaster salivary gland morphogenesis to detect X-Chromosome interaction with the 18wheeler gene	N/A	N/A	N/A
Villegas, Coleen	Erlyana, Erlyana	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Follow up assessment on suicide prevention workshop targeting pre-med students	N/A	N/A	N/A
Yangildina, Vera	Bhandari, Deepali	06/2017	TY4: TL4	Still an undergrad (in training) Expected BS in 2019	Generating phosphomimetic and non-phosphorylated mutations on cyclin-dependent kinase 5 (CDK5)	N/A	N/A	N/A
Blevins, Kennedy	Zavala, Arturo	06/2017	TY4: RL5	Still an undergrad (in training) Expected BA in 2018	The rewarding effects of alcohol in adolescent rats	PhD student, Psychology & Social Behavior, UCI (Accepted)	N/A	N/A
Chirino, Andrea	Urizar, Guido	06/2017	TY4: RL5	Still an undergrad (in training)	Increase neuroplasticity and cognitive flexibility in older adults to assist with	MS student, Health & Strategic	N/A	N/A

Undergraduate Student Participant	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
				Expected BS in 2018	healthy aging, and prevention of neurodegenerative diseases	Communication, Chapman University (Accepted)		
Jeanmarie, La Keisha	Nguyen-Rodriguez, Selena	06/2017	TY4: RL5	Still an undergrad (in training) Expected BS in 2018	Association of household income and parent presence with child fruit and vegetable intake in minority girls	PhD student, Public Health, UCI (Accepted)	N/A	N/A
Avellan, Josue	Bhandari, Deepali Tsai, Houg-Wei	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student	Cancer signaling; Sexual differentiation of brain and behavior	Unknown	Unknown	N/A
Bridgewater, Danielle	Urizar, Guido Gonzalez, Araceli	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student Expected BA in 2018	Health psychology; Stress & anxiety in young adults	N/A	N/A	N/A
Dang, Kimmy	Marayong, Panadda Krishnan, Vennila	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student Expected BS in 2018	Rehabilitation; Biomechanics	N/A	N/A	N/A
Hendergart, Kelly	Cho, Young-Hee Krishnan, Vennila	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student	Cognitive demand; Biomechanics	Unknown	Unknown	N/A
Lawrence, Elyssa	Eldon, Elizabeth Beyer, Christine	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student Expected BS in 2018	Obesity/Gene expression; Prosthetics engineering	N/A	N/A	N/A
Maloney, Brianna	Gray, Virginia Bavarian, Niloofar	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student	Community nutrition; Health promotion	Unknown	Unknown	N/A
Masoud, Sandy	Sorin, Eric Carter, Ashley	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student	Protein folding; Evolution/Sexual selection	Unknown	Unknown	N/A
Neupane, Sachin	Schwans, Jason Bhandari, Deepali	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student	Bio-organic chemistry; Cancer signaling	Unknown	Unknown	N/A
Tran, HaoHuyen	Pace, Douglas Weers, Paul	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student Expected BS in 2018	Parasitism; Lipoprotein biochemistry	N/A	N/A	N/A

Table 8D. Program Outcomes: Undergraduate**Part II. Recent Graduates**

Trainee	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Abarca, Victor	Young, Kelly	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Biology	Short Photoperiod Induces Decreases in Testicular RhoX Gene Expression	Masters student, Biology, CSULA, Further Training	1st Year Master Student in Biology, CSULA, 2017	N/A
Addo, Rhea-Comfort	Young, Kelly	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Biology	Mutation and Infertility: Effects of FOXL2 Mutations on FSHB Transduction	PhD student, Biology Sciences, UCSD, Further Training	1st Year PhD Student in Biology Sciences, UCSD, 2017	N/A
Aguilar, Diego	Rahai, Hamid	06/2015	TY1: TL4 TY2: TL4	Did not continue as BUILD student BS 2017, Mechanical Engineering	Developing a realistic 3D model of the Upper Respiratory System.	Unknown	Unknown	N/A
Allen, Johnridd	Schug, Robert	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BA 2017, Psychology	Testing Theory of Mind in Schizotypy	Unknown	Unknown	N/A
Argame, Matthew	Erlyana, Erylana	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BA/BS 2017, Religious Studies	Healthcare and Public Health Lab	MS student, Narrative Medicine, Columbia University, Further Training (Accepted)	N/A	N/A
Ari, Selin	Ahrens, Courtney	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	BS 2017, Health Care Administration	Culture and Violence Project	Staffing Coordinator, Nursing Admin, Kaiser, Other	Staffing Coordinator, Kaiser, 2017	N/A
Bellafard, Hanna	Carter, Ashley	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	BS 2017, Biology	Developing new method to elucidate the epigenetic mechanisms of learning and memory	Research Assistant, CSULB	Research Assistant, CSULB, 2018	N/A

Trainee	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Boblak, Sara	Urizar, Guido Gonzalez, Araceli	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student BA 2017, Psychology	Health psychology; Stress & anxiety in young adults	MFT student, Marriage & Family Therapy, CSUDH (Accepted)	N/A	N/A
Carillo, Michael	Rourke, Bryan	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Biology	The effects of aging on the skeletal and cardiac muscles in mice bred for exercise activity	Biotech Position, Other	Biotech Position, 2017	N/A
Chokr, Sima	Sinchak, Kevin	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Biology	Tamoxifen and ICI 182,720 activate G protein-coupled estrogen receptor 1 to rapidly facilitate sexual receptivity via an orphanin FQ (nociceptin) dependent pathway	PhD student, Neuroscience, UCI, Further Training	1st Year PhD Student in Neuroscience, UCI, 2017	N/A
Corrales, Alica	Miles, James	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BA 2017, Psychology	Driver Trust in Automation - Highly Automated vehicles	MS student, Integrated Sciences, Univ of Colorado, Denver, Further Training	1st Year MS Student in Integrated Sciences, Univ of Colorado, Denver, 2017	N/A
Digal, Lori	Schramm, Michael	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	BS 2017, Chemistry	3-walled Au Cavitanads	PhD student, Chemistry, Univ of Utah, Further Training	1st Year PhD Student in Chemistry, Univ of Utah, 2017	N/A
Dunne, Lauren	Urizar, Guido	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	BA 2017, Psychology	Destined for Greatness: Kindness Curriculum Program for African-American children	Research Assistant, CSULB	Research Assistant, CSULB, 2017	N/A
Gutierrez, Genesis	Erlyana, Erylana	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	BS 2017, Health Care Administration	HPV preventative behaviors and religiosity in Hispanic/Latina women age	Community Education Associate, Pacific Pride Foundation, Other	Community Education Associate, Pacific Pride Foundation, 2018	N/A
Fox, Sydney	Miles, James Zavala, Arturo	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BA 2017, Psychology	Intervening in Automated Vehicles: the effects of driver distractions	PhD student, Biological Psychology, UC Davis, Further Training (Accepted)	N/A	N/A

Trainee	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Gomez, Alexandra	Ahrens, Courtney	06/2015	TY1: TL4 TY2: TL4	Did not continue as BUILD student BA 2017, Psychology	Culture and Violence Project	Research Assistant, CSULB	Research Assistant, CSULB, 2018	N/A
Kakutani, Leesa	Weers, Paul	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	BS 2017, Biology	Characterization of apolipoprotein III/apolipoprotein E C-terminal chimera	MS student, Biomedical Sciences, Icahn School of Medicine Mt. Sinai (Deferred)	Unknown	N/A
Lira, Amalia	Galvez, Gino	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BA 2017, Psychology	CHORI Study (Children's Hospital Research Institute)	PhD student, Educat Psych, Michigan St Univ, Further Training	1st Year PhD Student in Educational Psych, Michigan St Univ, 2017	N/A
Madsen, Emma	Marayong, Panadda Beyer, Christine	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student BA 2017, Psychology	Rehabilitation; Prosthetics engineering	Other	Other	N/A
Magdaleno, Stephanie	Hall, Nancy Zavala, Arturo	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student BS 2017, Dietetics	Phonology and phonetics; Addiction	MDA student, Dietetics Administration, Utah State (Accepted)	N/A	N/A
Nameki, Robbin	Busciglio, Jorge	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Biology	Effect of Age on Sexual Dimorphism in Olfactory Preference in Mice	PhD student, Biology, Cedar Sinai Univ, Further Training	1st Year PhD Student in Biology, Cedar Sinai Univ, 2017	N/A
Nieto, Nicholas	Schwans, Jason	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Biochemistry	Analysis of a library of tetra alkyl bisphosphates and bisphosphorothioates as butyrylcholinesterase-selective inhibitors	PhD student, Biochemistry, Iowa St Univ, Further Training	1st Year PhD Student in Biochemistry, Iowa St Univ, 2017	N/A
Pamintuan, Claire	Pace, Douglas	06/2015	TY1: RL5 TY2: RL5	Did not continue as BUILD student BS 2017, Biology	Understanding iron regulation in the Apicomplexan parasite Toxoplasma gondii	PharmD student, Pharmacy, USC, Further Training	1st Year PharmD Student in Pharmacy, USC, 2017	N/A

Trainee	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Pham, Trong	Cho, Young-Hee	06/2015	TY1: RL5 TY2: RL5 TY3: TL4	BA 2017, Psychology	Depression as a Mediating Factor Between Rumination and Walking Performance	Research Assistant, CSULB	Research Assistant, CSULB, 2017	N/A
Rafferty, Aaron	Wang, Long	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Nutrition	Snacking in Youth Sports	PhD student, Public Health, Univ of South Carolina, Further Training (Accepted)	N/A	N/A
Rayo, Jessica	Spruijt-Metz, Donna Urizar, Guido	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BA 2017, Psychology	Monitoring and Modeling Family Eating Dynamics	Research Assistant, CSULB	Research Assistant, CSULB, 2017	N/A
Rodriguez, Roberto	Yu, Ted	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Chemical Engineering	Halogen doped graphene Nanoplatelets as an alternative to Pt as an ORR Catalyst	R&D Engineer, Microdyn-Nadir, Other	R&D Engineer, Microdyn-Nadir, 2017	N/A
Ruiz, Gabrielle	Pedersen, William	08/2015	TY2: TL4	Did not continue as BUILD student BA 2017, Psychology	The study of collective rumination and its effect on aggression	Masters student, Special Edu, Univ San Diego, Further Training (Accepted)	N/A	N/A
Salazar, Scott	Shankar, Praveen	06/2015	TY1: TL4 TY2: TL4	Did not continue as BUILD student BS 2017, Electrical Engineering	Develop an intelligent neural network controller with a field programmable gate array (FPGA)	Electrical Engineer, Naval Air Systems Command, Other	Electrical Engineer, Naval Air Systems Command, 2018	N/A
Sollenberger, Nathan	Zavala, Arturo	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BA 2017, Psychology	Methylphenidate Exposure Enhances Oxycodone Reward in Male and Female Adolescent Rats	PhD student, Psychology, Florida International University, Further Training	1st Year PhD Student in Psychology, Florida International University, 2017	N/A
Torres, Michael	Erlyana, Erylana	06/2016	TY3: TL4	Did not continue as BUILD student BS 2017, Health Care Administration	Religion and Vaccine	Research Assistant, UCI	Research Assistant, UCI, 2018	N/A

Trainee	Faculty Member	Start Date	Summary of Support During Training	Degree(s) Received and Year(s)	Topic of Research Project	Initial Position Department Institution Activity	Current Position Department Institution Activity	Subsequent Grant(s)/ Role/Year Awarded
Vimbela, Gina	Stout, David	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Chemical Engineering	Cardiovascular Bio-nanomaterial and regenerative medicine	MS student, Biomedical Engineering, Brown Univ, Further Training	1st Year MS Student in Biomedical Engineering, Brown Univ, 2017	N/A
Yao, Author	Erlyana, Erylana	06/2015	TY1: TL4 TY2: TL4 TY3: TL4	BS 2017, Health Care Administration	Assessing the Significance of the Built Environment in Affecting Ambulatory Activities of College Students: A Quasi Experimental Study	Data Analyst, Pathways by Molina, Other	Data Analyst, Pathways by Molina, 2017	N/A

Table 9. Student Outcomes (RL5-funded: Associates & Fellows)

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
ASSOCIATE						
Basi, Rohin	Biochemistry	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			
Carpentier, Sydney	Psychology	Interdisciplinary Approaches to Health Disparities	HHS 207			
Castro, Alexis	Psychology	Interdisciplinary Approaches to Health Disparities	HHS 207		Intro to using SPSS with Qualitative Data	
Chakkalal, Jini	Biology	Interdisciplinary Approaches to Health Disparities	HHS 207			
Geraghty, Cassandra	Psychology	Interdisciplinary Approaches to Health Disparities	HHS 207			
Godinez, Bianca	Linguistics	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			
Gutierrez, Elizabeth	Nutrition / Dietetics	Interdisciplinary Approaches to Health Disparities	HHS 207			
Hargrove, Richard	Biology	Interdisciplinary Approaches to Health Disparities	HHS 207			
Hernandez, Katrina	Biochemistry	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Hernandez Vasquez, Adriana	Psychology	Intro to Research Methods	PSY 220			
Kibret, Elroi	Biomedical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
Lucero, Robert	Health Science	Interdisciplinary Approaches to Health Disparities	HHS 207			
Martinez, Maya	Biomedical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
Medrano, Alexis	Athletic Training	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			
Mendoza, Matthew	Civil Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
Napasindayao, Don	Mechanical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
Nguyen, Jeffrey	Biomedical Engineering	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			
Nguyen, Tiffany*	Molecular Cell Biology & Physiology	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			
Nguyen, Tracy	Health Care Administration	Analysis and Evaluation of Health Care Services	HCA 465		Intro to using SPSS with Qualitative Data	
Pena, Justin*	Electrical Engineering					

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Robles, Charlene-Mei	Kinesiology	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			
Sar, Marissa	Recreation Therapy	Evaluation and Research in Leisure Services	REC 341			
Tang, Christine	Biomedical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
Ugalde, Diego	Computer Science	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			
Whisman, Frederick	Mechanical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
Yen, Cheston	Mechanical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
FELLOW						
Blevins, Kennedy	Psychology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Chirino, Andrea Fernanda	Health Science	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Jeanmarie, La Keisha	Health Science	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361		Introduction to SAS	GRE Workshop

Table 10. Student Outcomes (TL4-funded: Scholars)

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
SCHOLARS 1						
Acedo, Ismael	Microbiology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			
		Advanced Biomedical Research Methods	ENGR 496 / NSCI 496			
Alfaro, Jorge	Biology	Advanced Biomedical Research Methods	ENGR 496 / NSCI 496		Biomolecular Binding Workshop	GRE Workshop
					Enzyme Immunoassay Workshop	
					Microtome Workshop	
Aviles, Johana	Biochemistry	Chemical Communications	CHEM 361		Biomolecular Binding Detection on Real-time using Quartz Crystal Microbalance (QCM) and Surface Plasma Resonance (SPR)	GRE Workshop
		Interdisciplinary Approaches to Health Disparities	HHS 207		Protein Assay	

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Brahmbhatt, Parth	Kinesiology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Brown, Yohanna	Psychology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
		Interdisciplinary Approaches to Health Disparities	HHS 207			
Bush, Kenneth	Anthropology	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Chhotani, Mashal	Molecular Cell Biology	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Chiong, Reah	Dietetics and Food Administration	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			GRE Workshop
Cubillo, Edgar	Biomedical Engineering	Scientific Research Communications	CLA 361, ENGR 361,	Presidents Scholar, CSULB		GRE Workshop

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
			HHS 361, NSCI 361			
Darden, Megan	Child Development & Family Studies	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			GRE Workshop
Espericueta, Nora (Vicky)	Molecular Cell Biology and Physiology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Figueroa, Wilma	Health Science option in Community Health	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Geltz, Erica	Nutrition Science	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			GRE Workshop
Gilligan, Ariel	Marine Biology	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			GRE Workshop
Henson, Katherine	Biology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Higgwe, Tamunotelema (TJ)	Chemical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Hoil, Jesus*	Biochemistry					
Hollearn, Martina	Psychology	Interdisciplinary Approaches to Health Disparities	HHS 207	Ruth Wright Scholarship		GRE Workshop
		Advanced Behavioral Research Methods	CLA 496 / HHS 496			
Jones, Destyn	Psychology	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Karwa, Talha	Electrical Engineering	Interdisciplinary Approaches to Health Disparities - HHS 207	HHS 207			GRE Workshop
Kim, Do (Diane)	Biomedical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Kouris, Gregory*	Electrical Engineering					
Leal, Stephanie	Biochemistry	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361		Protein Assay	GRE Workshop
Luna, Andrea	Health Science	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			GRE Workshop
		Advanced Behavioral Research Methods	CLA 496 / HHS 496			
Makary, Kativon	Psychology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
		Interdisciplinary Approaches to Health Disparities	HHS 207			
Mathew, Sherin	Biology	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Mayasa-Hailey, Afriyah	Communication Studies	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			GRE Workshop
Mehta, Rhea	Psychology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
		Advanced Behavioral Research Methods	CLA 496 / HHS 496			
Miranda, Wendy	Kinesiology	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			GRE Workshop
Orellana, Irene	Linguistics	Introduction to Behavioral Research Methods	CLA 296 / HHS 296			GRE Workshop
Pedro, Phoenix	Anthropology	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Poli, John-Edward	Biology	Introduction to Biomedical	NSCI 296 / ENGR 296			GRE Workshop

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
		Research Methods				
Pouv, Amara	Molecular Cell Biology & Physiology	Advanced Biomedical Research Methods	ENGR 496 / NSCI 496			GRE Workshop
Quitiquit, John	Biochemistry	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Redd, Kenneth K.*	Chemistry				MatLab	GRE Workshop
Ricci, Anthony	Molecular and Cellular Biology	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Rujchanarong, Denys	Biochemistry	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Salladay, Ivan	Biology	Interdisciplinary Approaches to Health Disparities	HHS 207		MatLab	GRE Workshop

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Sanchez, Anthony	Computer Science	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Sandoval Olmos, Dalia	Biology	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
Santiago, Peter Joseph	Physics	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			GRE Workshop
Stevens, Leela	Civil Engineering	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			GRE Workshop
Thompson, Morgan	Molecular Cell Biology & Physiology					GRE Workshop
Thong, Sylvia*	Biology	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			GRE Workshop
Tran, Angela*	Biochemistry	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Villalba, Jacquelyn	Biology	Introduction to Biomedical Research Methods	NSCI 296 / ENGR 296			GRE Workshop
Villegas, Coleen	Speech-Language Pathology	Introduction to Behavioral Research Methods	CLA 296 / HHS 296		Applying to USC	GRE Workshop
Walker, Dejuante	Chemical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			
Yangildina, Vera	Chemical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207			GRE Workshop
SCHOLARS 2						
Aburub, Kadisha	Biology					
Alfaro, Kenya	Electrical Engineering	Interdisciplinary Approaches to Health Disparities	HHS 207	Leadership Alliance SROP (Research)		
Altamirano, Vanessa	Psychology				Moral Cognitions: Echo-Chambers, Source Effects and	

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
					Behavioral Consequences	
					The Half-Life of Viral Altruism	
					Emotional Escalation in Twitter Replies as a Vehicle for Social Movements	
					LinkedIn The Employer Perspective	
Alvarado, Carlos	Biological Sciences	Interdisciplinary Approaches to Health Disparities	HHS 207			
Avila, Tatiana	Psychology			SPSP's Diversity Fund Undergraduate Registration Award		
Barajas, Maria	Psychology					
Chau, Noel	Chemistry & Biochemistry				2D NMR	
Cheong, Rudolph	Biological Sciences					

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Chetsawang, Jason	Biological Sciences					
Curiel, Lizette	Biological Sciences					
de Orta-Barile, Marian	Electrical Engineering	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			
Feri, Micah Mae	Biological Sciences			Doris A. Howell Foundation-CSUPERB Research Scholar Award		
Gagan, Joshua	Electrical Engineering	Interdisciplinary Approaches to Health Disparities - HHS 207	HHS 207	CSULB Student Research Competition	Immunohistochemistry	
Garcia, Melany	Health Science					
Goh, Vivianna	Family & Consumer Sciences	Interdisciplinary Approaches to Health Disparities	HHS 207			

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Grosvirt-Dramen, Adam	Chemical Engineering	Advanced Biomedical Research Methods	ENGR 496 / NSCI 496			
Harris, Jason	Chemical Engineering					
Huynh, Jessica*	Biological Sciences					
Jackson, Alexandra	Electrical Engineering				Unity Workshop	
Johnson, Preston	Psychology				PEERS Certified Training	
Lin, Stephanie	Family & Consumer Sciences	Advanced Behavioral Research Methods	CLA 496 / HHS 496			
Liska, Hannah	Psychology	Interdisciplinary Approaches to Health Disparities	HHS 207			
Ly, Quang (Leo)	Chemical Engineering					
Maldonado, Jairo	Mechanical & Aerospace Engineering				Unity Workshop	

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Manoogian, Adam	Psychology					
McNeill, Juvonne (Jayvien)*	Psychology					
Ngo, Sang (Jennifer)	Electrical Engineering	Advanced Biomedical Research Methods	ENGR 496 / NSCI 496			
Nilakantan, Shiva	Chemical Engineering					
Park, Eun Ae	Electrical Engineering	Advanced Biomedical Research Methods	ENGR 496 / NSCI 496		Pathokinesiology	
Patel, Salina	Biological Sciences					
Phun, Vicky	Psychology	Advanced Behavioral Research Methods	CLA 496 / HHS 496		MatLab	
Pittman, Patricia	Psychology	Advanced Behavioral Research Methods	CLA 496 / HHS 496			

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Richard, Chyann	Psychology	Advanced Behavioral Research Methods	CLA 496 / HHS 496			
Rodriguez, Patsy	Psychology					
Rodriguez, Tania	Psychology					
Tanner, Shai	Biological Sciences					
Thai, Edward	Chemical Engineering					
Torres, Michael*	Health Care Administration					
Vasquez, Nancy*	Linguistics					
Walker, Tian	Anthropology	Multivariate Statistical Analysis	PSY 412			
Watts, Landon	Environmental Science and Policy	Scientific Research Communications	CLA 361, ENGR 361, HHS 361, NSCI 361			

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
SCHOLARS 3						
Bhakta, Krishan	Kinesiology					
Dang, Hoang	Biology					
Esqueda, Genesis	Chemical Engineering				SPSS	
Lam, Laurel	Biology					
Lopez, Lupita	Biology	Interdisciplinary Approaches to Health Disparities	HHS 207	Department of Biological Sciences Biotechnology Scholarship		
Mendoza, Victor	Biochemistry					
Pardo, Paulina	Molecular Cell Biology / Physiology					
Ramos, Layla	Microbiology	Interdisciplinary Approaches to Health Disparities	HHS 207			
Robles, Monica	Chemical Engineering					

Student Name	Major	Coursework (Name)	Coursework (Course Number)	Fellowships or Other Support	Workshops Attended	Career Development Activities
Rogers, Malik	African Studies / Political Science	Advanced Behavioral Research Methods - CLA 496 / HHS 496	CLA 496 / HHS 496			
Urfano, Selina	Microbiology				SEM	
West, Jazmine	Recreation Therapy					

C. PRODUCTS

C.1 PUBLICATIONS

Are there publications or manuscripts accepted for publication in a journal or other publication (e.g., book, one-time publication, monograph) during the reporting period resulting directly from this award?

Yes

Publications Reported for this Reporting Period

Public Access Compliance	Citation
Complete	Gonzalez J, Ramirez J, Schwans JP. Evaluating Fmoc-amino acids as selective inhibitors of butyrylcholinesterase. <i>Amino acids</i> . 2016 December;48(12):2755-2763. PubMed PMID: 27522651; PubMed Central PMCID: PMC5802362.
Complete	Lanza HI, Pittman P, Batshoun J. Obesity and Cigarette Smoking: Extending the Link to E-cigarette/Vaping Use. <i>American journal of health behavior</i> . 2017 May 1;41(3):338-347. PubMed PMID: 28376978; PubMed Central PMCID: PMC5506838.
Complete	Lanza HI, Teeter H. Electronic Nicotine Delivery Systems (E-cigarette/Vape) use and Co-Occurring Health-Risk Behaviors Among an Ethnically Diverse Sample of Young Adults. <i>Substance use & misuse</i> . 2018 January 2;53(1):154-161. PubMed PMID: 28777675; PubMed Central PMCID: PMC5825211.
Complete	Nguyen STC, Freund HL, Kasanjian J, Berlemont R. Function, distribution, and annotation of characterized cellulases, xylanases, and chitinases from CAZy. <i>Applied microbiology and biotechnology</i> . 2018 February;102(4):1629-1637. PubMed PMID: 29359269; PubMed Central PMCID: PMC5806127.
Complete	Nguyen STC, Freund HL, Kasanjian J, Berlemont R. Function, distribution, and annotation of characterized cellulases, xylanases, and chitinases from CAZy. <i>Applied microbiology and biotechnology</i> . 2018 February;102(4):1629-1637. PubMed PMID: 29359269; PubMed Central PMCID: PMC5806127.
In Process at NIHMS	Interspecific and Intra-genic Differences in Codon Usage Bias Among Vertebrate Myosin Heavy-Chain Genes. <i>Journal of molecular evolution</i> .
In Process at NIHMS	The effect of pulsed electric field on expression of ECM proteins: Collagen, elastin, and MMP1 in human dermal fibroblasts. <i>Journal of electroanalytical chemistry (Lausanne, Switzerland)</i> .
In Process at NIHMS	Three-Dimensional Stem Cell Bioprinting. <i>Cell, stem cells and regenerative medicine</i> .

C.2 WEBSITE(S) OR OTHER INTERNET SITE(S)

Not Applicable

C.3 TECHNOLOGIES OR TECHNIQUES

Not Applicable

C.4 INVENTIONS, PATENT APPLICATIONS, AND/OR LICENSES

Not Applicable

C.5 OTHER PRODUCTS AND RESOURCE SHARING

Nothing to report

D. PARTICIPANTS

D.1 WHAT INDIVIDUALS HAVE WORKED ON THE PROJECT?

Commons ID	S/K	Name	Degree(s)	Role	Cal	Aca	Sum	Foreign Org	Country	SS
LKINGSFORD	Y	KINGSFORD, LAURA	BS,PHD	PD/PI	0	0	0			NA
GURIZAR	Y	Urizar, Guido G.	PHD	PD/PI	0	0	0			NA
CACHUN	N	CHUN, CHI-AH	PHD,MA,BA	Faculty	0	0	1			NA
ROGERCLO12	N	Lo, Chih-Cheng	PHD	Faculty	0	3	1			NA
PWEERS	Y	WEERS, PAUL Michiel	PHD	Faculty	0	4	1			NA
PANADDAM1	Y	Marayong, Panadda	BS,MS,PHD	Faculty	0	4	1			NA
NBAVARIAN	N	Bavarian, Niloofar	PHD,OTH,BS	Faculty	0	3	1			NA
YHCHO1	N	Cho, Young-Hee	PHD	Faculty	0	4	1			NA
JDILLON1	Y	Dillon, Jesse	PHD	Co-Investigator	0	5	2			NA
SZIGMONT18	N	Zigmont, Sarah	MS	Faculty	0	1	1			NA

Glossary of acronyms:

S/K - Senior/Key

DOB - Date of Birth

Cal - Person Months (Calendar)

Aca - Person Months (Academic)

Sum - Person Months (Summer)

Foreign Org - Foreign Organization Affiliation

SS - Supplement Support

RE - Reentry Supplement

DI - Diversity Supplement

OT - Other

NA - Not Applicable

D.2 PERSONNEL UPDATES

D.2.a Level of Effort

Will there be, in the next budget period, either (1) a reduction of 25% or more in the level of effort from what was approved by the agency for the PD/PI(s) or other senior/key personnel designated in the Notice of Award, or (2) a reduction in the level of effort below the minimum amount of effort required by the Notice of Award?

Yes

Chi-Ah Chun stepped down as the Program Director 06/30/17 but continued through July to oversee the summer student training program and to help in the transition to the new Program Director, Jesse Dillon. Dr. Dillon started as the STC Program Director on 07/01/17. As this was after the Year 3 RPPR was submitted, a request for Change in Key Personnel was submitted to NIH on 10/06/17 along with a carry forward request for the TL4 award. A Biosketch for Dr. Dillon was included in that request and an update on Other Support had been in the Year 3 RPPR for the RL5 award. Dr. Panadda Marayong is moving to the REC as the Program Director to replace Dr. Paul Buonora (see the RL5 RPPR) 06/01/18.

D.2.b New Senior/Key Personnel

Are there new training faculty?

Yes

File uploaded: Dillon_Bio_OtherSupport_STC_D2b.pdf

D.2.c Changes in Other Support

Has there been a change in the active other support of senior/key personnel since the last reporting period?

Yes

File uploaded: CSULB_BUILD_ST_D2c.pdf

D.2.d New Other Significant Contributors

Are there, or will there be, new other significant contributors?

No

D.2.e Multi-PI (MPI) Leadership Plan

Will there be a change in the MPI Leadership Plan for the next budget period?

No

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Dillon, Jesse G.

eRA COMMONS USER NAME (credential, e.g., agency login): **JDILLON1**

POSITION TITLE: Professor of Biological Sciences

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Wesleyan University	B.A.	05/1994	Environmental Science
University of Oregon	Ph.D.	06/2000	Microbiology
University of Washington	Post-Doc	12/2003	Microbiology
INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Wesleyan University	B.A.	05/1994	Environmental Science

A. Personal Statement

I am a microbiologist, with experience in studying a range of microorganisms from bacteria to archaea to viruses, photosynthetic to heterotrophic, from aerobes to anaerobes. My lab combines a number of approaches including traditional culturing, fluorescence microscopy, radioisotopic and stable isotopic tracer studies to molecular sequencing. We have especially focused on using these approaches to study multi-species communities in a range of environments including coastal and extreme habitats with an emphasis on biofilm communities. Much of this work has been collaborative with other researchers at CSULB as well as R01 institutions. My research has been funded by a range of agencies including NSF, Seagrant as well as smaller funds from CSU agencies CSUPERB and COAST. As PI or Co-PI on all of these grants I am well aware of how to manage funds and personnel to get these projects through to completion. I am mentoring/have mentored a total of one NSF-minority post-doctoral fellow, ten MS students (2 from underrepresented groups) and 67 undergraduates (34 underrepresented) in my time here at CSULB. Thirty-three of these students have participated in CSULB research programs including NIH-BUILD, NIH-RISE, NIH-Bridges to the Baccalaureate, HSI-STEM Summer Bridge program, NSF-LSAMP and the former HHMI honors program. Six students mentored in my laboratory (2 underrepresented) have completed or are currently obtaining their PhD, five in biomedically-related fields. Thus, despite my more environmental bent to this research, students from my laboratory are well prepared to pursue careers in biomedicine. Fifteen of these students are listed co-authors on in prep. or published manuscripts (see section C on contributions to science). One project not listed in that section is a recent collaboration between members of my lab and a group of Endodontists at the LB VA hospital. This project is applying confocal fluorescence microscopy to investigate the efficacy of chemical treatments to treat oral biofilms.

Between 2015-2017, I have served as a Co-Director of the Research Enrichment Core (REC) for the CSULB NIH BUILD Award. Beginning in Summer 2017 I become the Director of the Student Training Core (STC) for the same program. In these capacities, I have been involved in planning and implementation of the BUILD program including BUILD mentor and student selection, program communications, curricular development, as well as student instruction in the weekly BUILD learning community courses. As director I have taken on a supervisory role in coordinating the learning community courses, led students in attending the annual ABRCMS meeting as well as other administrative roles.

B. Positions and Honors**Positions and Employment**

2015-Present Professor, Dept. of Biological Sciences, California State Univ., Long Beach, CA
 2010-2015 Associate Professor, Dept. of Biological Sciences, California State Univ., Long Beach, CA
 2004-2010 Assistant Professor, Dept. of Biological Sciences, California State Univ., Long Beach, CA
 2000-2003 Post-doctoral Fellowship, University of Washington, Seattle, WA

Honors and Appointments

2017-present NIH BUILD Student Training Core Director
 2016 Completed NRMN Research Mentoring Training
 2015-2017 NIH BUILD Research Enrichment Core Co-Director
 2010-Present Review Editor, Frontiers in Extreme Microbiology
 2013 CSULB CNSM student success award
 2007-2010 Long Beach Mayor's Task Force on Water Quality
 2000-2003 NSF Postdoctoral Fellowship, Univ. of Washington Astrobiology Fellowship
 1999-2000 Graduate Research Fellowship, Univ. of Oregon, Department of Biology
 1999 Nominated for the Provasoli Award for the best paper published in the Journal of Phycology
 1994 Phi Beta Kappa membership

C. Contributions to Science (CSULB Student co-authors are in bold.)

I. UV photoecology of cyanobacteria. My Ph.D. research at the University of Oregon focused on identifying the protective effects and the environmental factors that affected the synthesis of a UV shielding pigment in photosynthetic cyanobacteria. Major findings were that it protected against UVC radiation that was more common on the early Earth and that pre-exposure to UV and other environmental stressors (e.g. desiccation) induced subsequent protection from UV radiation. Approaches involved cultivation, radiocarbon uptake experiments and pigment analyses.

Dillon, J.G. and R.W. Castenholz. 1999. Scytonemin, a cyanobacterial sheath pigment, protects against UVC radiation: Implications for early photosynthetic life. *Journal of Phycology* 35: 673-681

Dillon, J.G., C.M. Tatsumi, P.G. Tandingan and R.W. Castenholz. 2002. Effect of environmental factors on the synthesis of scytonemin, a UV screening pigment, in cyanobacteria (*Chroococcidiopsis* sp.). *Archives of Microbiology*. 177: 322-331

Dillon, J.G., S.R. Miller and R. W. Castenholz. 2003. UV-acclimation response in natural populations of cyanobacteria (*Calothrix* sp.). *Environmental Microbiology*. 5:473-483.

Dillon, J.G. and R.W. Castenholz. 2003. The synthesis of the UV-screening pigment, scytonemin, and photosynthetic performance in isolates from closely related natural populations of cyanobacteria (*Calothrix* sp.). *Environmental Microbiology*. 5:484-491.

II. Microscale complexity of autotrophic microbial biofilms. My post-doctoral research at the University of Washington involved the development of molecular sequencing approaches to study changes in the spatial and temporal distribution and activity of bacteria found in multi-species biofilms in high temperature and hypersaline habitats. More recently at CSULB I have developed a collaboration with researchers at Cal. Tech. This NSF-funded project is investigating sulfur cycling microorganisms in biofilms found near hydrothermal vents on the coast in the Palos Verde Peninsula. We have specifically targeted bacteria participating in the sulfur cycle. Approaches included PCR-based fingerprinting and genomic sequencing, fluorescent in situ hybridization (FISH) microscopy and radiotracers studies. I am now expanding this project to include metagenomic sequencing in collaboration with Dr. Renaud Berlemont on the CSULB faculty.

Miranda, Priscilla, Nathan McLain, Roland Hattenpichler, Victoria J. Orphan, & Jesse G. Dillon. 2016. Evidence for coupled sulfur cycling in chemosynthetic microbial mats associated with intertidal hydrothermal sulfur vents in Palos Verdes Peninsula, San Pedro, CA, USA. *Frontiers in Microbiology (Microbiological Chemistry and Geomicrobiology Specialty Section)*. 7 epub. 10.3389/fmicb.2016.01163. PMC4961709.

Dawson, Katherine S., Silvan Scheller, Jesse G. Dillon, Victoria J. Orphan. 2016. Stable isotope phenotyping via cluster analysis of NanoSIMS data as a method for characterizing distinct microbial ecophysologies and sulfur-cycling in the environment. *Frontiers in Microbiology (Microbiological Chemistry and Geomicrobiology Specialty Section)*. 7. epub. 10.3389/fmicb.2016.00774. PMC4881376.

Dillon, Jesse. G., Scott R. Miller, Brad M. Bebout, Meredith Hullar, Nicolas Pinel & David A. Stahl. 2009. Spatial and Temporal Variability in a Stratified Hypersaline Microbial Mat Community. *FEMS Microbiology Ecology* 68: 46-58.

Dillon, J., S. Fishbain, S. Miller, B. Bebout, K. Habicht, S. Webb, & D.A. Stahl. 2007. High rates of sulfate reduction in a low-sulfate hot spring microbial mat are driven by a low level of diversity of sulfate-respiring microorganisms. *Applied and Environmental Microbiology*. 73: 5218-5226.

Fishbain, S., J.G. Dillon, H.L. Gough and D.A. Stahl. 2003. Linkage of high rates of sulfate reduction in Yellowstone hot springs to unique sequence types in the dissimilatory sulfate respiration pathway. *Applied and Environmental Microbiology*. 69: 3663-3667.

III. Diversity of prokaryotes and viruses in hypersaline waters. Since arriving at CSULB, I have continued my studies of hypersaline habitats including salt lakes such as the Salton Sea and evaporative salterns in California and Mexico. We have discovered remarkably diverse communities of both bacteria and archaea capable of surviving at very high salinities using both culturing approaches and molecular sequencing. We have also characterized a bacteria-virus pair isolated from the Cargill saltern in SF Bay area. Note: the saltern projects have been developed in collaboration with Dr. Shereen Sabet, an NSF-funded Minority Postdoctoral Fellow I mentored in my laboratory from 2005-2008.

Rodela, Meghan, Allison Peterson, Shereen Sabet and Jesse Dillon. in preparation. Broad environmental tolerance for a *Salicola* host-phage pair isolated from the Cargill Solar Saltworks, Newark, CA, USA.

Dillon, Jesse, **Mark Carlin, Abraham Gutierrez, Vivian Nguyen & Nathan McLain**. 2013. Patterns of microbial diversity along a salinity gradient in the Guerrero Negro solar saltern, Baja CA Sur, Mexico. *Frontiers in Microbiology (Extreme Microbiology Specialty Section)* 4. epub. 10.3389/fmicb.2013.00399.

Shereen Sabet, **Lamine Diallo, Woosung Jung, Lauren Hays**, & Jesse Dillon. 2009. Characterization of halophiles isolated from solar salterns in Baja California, Mexico. *Extremophiles* 13: 643-656.

Dillon, Jesse, **Lisa McMath, & Amber Trout**. 2009. Seasonal changes in bacterial diversity in the Salton Sea. *Hydrobiologia* 632:49-64.

IV. Community structure and function of salt marsh sediments. I collaborate with my department colleague and wetland ecologist, Dr. Christine Whitcraft, to study the microorganisms living in the sediments of a restored salt marsh in Huntington Beach. We have studied the diversity and function of sediment bacteria with emphasis on anaerobic sulfur bacteria and those degrading complex plant carbon. This work has revealed diverse and unexpected bacteria capable of utilizing plant carbon as well as distinct populations of sulfur bacteria found along a salinity gradient within the marsh. Our study on lignocellulose utilizers was the first application of stable isotope probing in a salt marsh habitat. Recently, we have begun studying the impacts of sea level rise on marsh communities. Approaches: molecular sequencing, stable isotope probing, plant decomposition, radiotracer studies.

Nathan McLain, Lorenzo Camargo, Christine R. Whitcraft and Jesse G. Dillon. In preparation. Evaluation of sea level rise impacts on the decomposer communities of a Southern California coastal salt marsh.

Jackson, Karen, Christine Whitcraft and Jesse Dillon. 2014. Diversity of Desulfobacteriaceae and overall activity of sulfate-reducing microorganisms in and around a salt pan in a southern California coastal wetland. *Wetlands*. 34: 969-977.

Darjany, Lindsay, Christine Whitcraft and Jesse Dillon. 2014. Lignocellulose-responsive bacteria in a southern California salt marsh identified by stable isotope probing. *Frontiers in Microbiology (Aquatic Microbiology Specialty Section)*. 5: epub. 10.3389/fmicb.2014.00263.

URL for NCBI My Bibliography

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1jwRDbchq2u/bibliograpahy/50207807/public/?sort=date&direction=ascending>

D. Additional Information: Research Support and/or Scholastic Performance (last 3 years)

Ongoing Research Support

National Institutes of General Medical Sciences Kingsford, Urizar (PIs) 06/01/15-present
NIH BUILD Program Award #s NIH 8UL1GM118979-02, 8TL4GM118980-02, and 8RL5GM118978-02
Role: Faculty Mentor for student trainees

National Institutes of Health Buonora, Brusslan (PIs) 06/01/16-present
CSULB RISE Program Award# NIH 2R25GM071638-09A1
Role: Faculty Mentor for student trainees

Completed Research Support

Council on Ocean Affairs, Science and Technology (COAST) Whitcraft (PI) 06/01/14-12/31/15
COAST Grant Development Program
Wetland ecosystem community change in the face of sea level rise
Role: Co-Investigator

CSULB Small Faculty Grant Program Dillion (PI) 06/01/15-05/31/16
Metagenomic Analysis of the White Point, Palos Verde Sulfur Vent Microbial Mat Communities
Role: Principal Investigator

National Science Foundation David Fike (PI) 03/15/12-02/28/15
Award #1123498 (no-cost extensions to 02/28/17)
Collaborative Research: Tracking chemical, isotopic, and molecular signatures of tightly coupled sulfur cycling in phototrophic and chemosynthetic microbial ecosystems
Role: Co-Investigator

PHS 2590/RPPR OTHER SUPPORT FORMAT PAGE

Submit other support for all new senior/key personnel, and updated other support for all senior/key personnel for whom there has been a change since the last reporting period.

Provide only active support for all new senior/key personnel. Provide updated other supported for all senior/key personnel for whom there has been a change in other support. If a previously active grant has terminated and/or if a previously pending grant is now active, update by annotating accordingly.

Other Support includes all financial resources, whether Federal, non-Federal, commercial or institutional, available in direct support of an individual's research endeavors, including but not limited to research grants, cooperative agreements, contracts, and/or institutional awards. Training awards, prizes, or gifts do not need to be included. Effort devoted to projects must be reported in person months; indicate calendar, academic, and/or summer months associated with each project.

Use the suggested format shown below. See section D.2.c of the [RPPR Instruction Guide](#), and [NIH Grants Policy Statement, Section 2.5.1: Just-in-Time Procedures](#) for more information.

Format

NAME OF INDIVIDUAL
ACTIVE/INACTIVE

Project Number or Name (PD/PI name) Source of Support Title of Project or Subproject	Dates of Approved/Proposed Project Annual Direct Costs	Person Months (Calendar/Academic/ Summer)
The major goals of this project are...		

OVERLAP (*summarized for each individual*)

DILLON, J.G.

ACTIVE

None

PENDING

None

OVERLAP

None

For New and Renewal Applications (PHS 398) – DO NOT SUBMIT UNLESS REQUESTED**PHS 398 OTHER SUPPORT**

Provide active and pending support for all senior/key personnel. **Other Support includes all financial resources, whether Federal, non-Federal, commercial or institutional, available in direct support of an individual's research endeavors, including but not limited to research grants, cooperative agreements, contracts, and/or institutional awards.** Training awards, prizes, or gifts do not need to be included.

There is no "form page" for other support. Information on other support should be provided in the *format* shown below, using continuation pages as necessary. The sample below is intended to provide guidance regarding the type and extent of information requested.

For instructions and information pertaining to the use of and policy for other support, see Other Support in the Supplemental Instructions, Part III, Policies, Assurances, Definitions, and Other Information.

Effort devoted to projects must be measured using person months. Indicate calendar, academic, and/or summer months associated with each project.

Format**NAME OF INDIVIDUAL****ACTIVE/PENDING**

Project Number (Principal Investigator) Source Title of Project (<i>or Subproject</i>)	Dates of Approved/Proposed Project Annual Direct Costs	Person Months (Cal/Academic/ Summer)
The major goals of this project are...		

OVERLAP (*summarized for each individual*)

KINGSFORD, L.

NO CHANGE

URIZAR, G.

NO CHANGE

DILLON, J.

NO CHANGE

WEERS, P.

NO CHANGE

CHO, Y.-H.

NO CHANGE

BAVARIAN, N.ACTIVE

N/A (Bavarian) 1/1/17-12/31/18 Person Months N/A

Ukelja Center for Ethical Leadership \$5,000 Research Stipend

Pharmacological cognitive enhancement: Examining the ethical principles guiding college students abstention

The major goals of the project are to use a mixed methods approach to understand the themes guiding PCE abstention, and the sociodemographic correlates of each theme

PENDING

R15 (Bavarian) 8/01/18-7/31/21 1.125 AY Months/1.125 Summer Months

NIH \$296,366

Exploring deterrents to prescription stimulant diversion and misuse behaviors

The major goals of the project are to use qualitative methods to understand deterrents to diversion of prescription stimulants and deterrents to misuse of prescription stimulants, from the perspective of students with these experiences.

R21 (Bavarian) 1/1/19-12/31/20 1.125 AY Months/1.125 Summer Months
NIH \$79,916

Addressing Inequities in Youth Outcomes via School-Based Programs: An Application of Linear Programming
The major goals of the project are to use linear programming to understand the implementation levels needed for a school-based program to observe an impact on academic, behavioral, and character outcomes of youth in a low-income setting.

R305A180259 (Siebert) 7/1/2018 to 6/30/2021 Consultant
IES \$506,573

(Bavarian DC - \$9,600 for 2 hrs/week for 48 weeks)

Investigation of how and for whom the Positive Action social-emotional and character development program has its effects on student behavior and academic achievement

The major goals of the project are to use moderation analyses to further understand the impact of a social-emotional and character development program that was implemented among youth who were attending schools in a low-income setting.

OVERLAP

None

LO, R.

ACTIVE

None

PENDING

NSF DUE-HSI (Co-PI)

09/01/2018 - 08/31/2023

Building Capacity: Improving Undergraduate Training and Retention through Transformative Research

\$1,496,086

CSUPERB Curriculum Development Grant Program (PI)

06/01/2018 - 11/30/2019

DIY Instruments for Biological, Chemical, and Engineering Applications

\$15,000

OVERLAP

None

E. IMPACT

E.1 WHAT IS THE IMPACT ON THE DEVELOPMENT OF HUMAN RESOURCES?

Not Applicable

E.2 WHAT IS THE IMPACT ON PHYSICAL, INSTITUTIONAL, OR INFORMATION RESOURCES THAT FORM INFRASTRUCTURE?

Not Applicable

E.3 WHAT IS THE IMPACT ON TECHNOLOGY TRANSFER?

Not Applicable

E.4 WHAT DOLLAR AMOUNT OF THE AWARD'S BUDGET IS BEING SPENT IN FOREIGN COUNTRY(IES)?

NOTHING TO REPORT

F. CHANGES

F.1 CHANGES IN APPROACH AND REASONS FOR CHANGE

A major challenge we have had this year has been our increasing number of trainees (N=130 in Year 4) and the expanding scope of health research areas that they represent across the four participating colleges on our campus. To address this challenge, we have restructured the training director model for our student training core team to provide additional support for our BUILD students. Specifically, we have added four additional training directors (TDs) for our Scholars program, for a total of seven (includes our program director). Three of the new TDs are funded through the TL4 mechanism and one is funded through the RL5 mechanism. These TDs were added to have faculty with diverse backgrounds in health research across all four colleges that match our BUILD students' pursuit of careers in behavioral and biomedical research. This new training director model creates flexibility and broader expertise in allowing for shared career development topics during our weekly learning community (LC), regardless of students' research background, and adds to the ability to have breakout groups. These breakout groups separate students by college when needed in order for TDs (from the same college) to be able to provide more one-on-one mentoring of these students as they prepare for graduate school. Students are assigned to a TD and a graduate assistant (near-peer mentor) to review different topics discussed in the LC, as well as to provide discipline-specific support during one-on-one meetings. We also have a LC specialist who works with the ST Core Director and TDs to oversee our LC graduate assistants and provides training workshops for these near-peer mentors to assist in their work with our undergraduate BUILD students and to support their own career development. The TDs also participate in the recruitment and selection of new Scholars, oversee the faculty mentored research activities for Scholars already in our program, and help with student tracking.

F.2 ACTUAL OR ANTICIPATED CHALLENGES OR DELAYS AND ACTIONS OR PLANS TO RESOLVE THEM

Not Applicable

F.3 SIGNIFICANT CHANGES TO HUMAN SUBJECTS, VERTEBRATE ANIMALS, BIOHAZARDS, AND/OR SELECT AGENTS

F.3.a Human Subjects

No Change

F.3.b Vertebrate Animals

No Change

F.3.c Biohazards

No Change

F.3.d Select Agents

No Change

G. SPECIAL REPORTING REQUIREMENTS

G.1 SPECIAL NOTICE OF AWARD TERMS AND FUNDING OPPORTUNITIES ANNOUNCEMENT REPORTING REQUIREMENTS

File(s) uploaded:

CSULB_TL4_Y4_SecG1_Trainee Diversity Form.pdf

2018 CSULB IRB Approval Letters_G1.pdf

CSULB_BUILD_ST_G1_RequiredStatement.pdf

G.2 RESPONSIBLE CONDUCT OF RESEARCH

File uploaded: CSULB_TL4_Y4_SecG2_RCR.pdf

G.3 MENTOR'S REPORT OR SPONSOR COMMENTS

Not Applicable

G.4 HUMAN SUBJECTS**G.4.a Does the project involve human subjects?**

Yes

Is the research exempt from Federal regulations?

No

Does this project involve a clinical trial?

No

G.4.b Inclusion Enrollment Data

Not Applicable

G.4.c ClinicalTrials.gov**Does this project include one or more applicable clinical trials that must be registered in ClinicalTrials.gov under FDAAA?**

No

G.5 HUMAN SUBJECTS EDUCATION REQUIREMENT**Are there personnel on this project who are newly involved in the design or conduct of human subjects research?**

No

G.6 HUMAN EMBRYONIC STEM CELLS (HESCS)**Does this project involve human embryonic stem cells (only hESC lines listed as approved in the NIH Registry may be used in NIH funded research)?**

No

G.7 VERTEBRATE ANIMALS**Does this project involve vertebrate animals?**

No

G.8 PROJECT/PERFORMANCE SITES

Organization Name:	DUNS	Congressional District	Address
Primary: CALIFORNIA STATE UNIVERSITY LONG BEACH	006199129	CA-047	CALIFORNIA STATE UNIVERSITY LONG BEACH 1250 BELLFLOWER BLVD LONG BEACH CA 908400004
CALIFORNIA STATE UNIVERSITY LONG BEACH RESEARCH FDN	006199129		CALIFORNIA STATE UNIVERSITY LONG BEACH 1250 Bellflower Blvd LONG BEACH CA 908400004

G.9 FOREIGN COMPONENT

No foreign component

G.10 ESTIMATED UNOBLIGATED BALANCE

G.10.a Is it anticipated that an estimated unobligated balance (including prior year carryover) will be greater than 25% of the current year's total approved budget?

No

G.11 PROGRAM INCOME

Not Applicable

G.12 F&A COSTS

Is there a change in performance sites that will affect F&A costs?

No

Program Director/Principal Investigator (Last, First, Middle): Kingsford, Laura

Trainee Diversity Report**This report format should NOT be used for data collection from trainees.**

Training Grant Title: CSULB BUILD Program - Student Training Core: Scholars Programs

Total Number of Appointed: 102

Grant Number: 5TL4GM118980-05

PART A. TOTAL TRAINEE APPOINTMENTS REPORT: Number of Trainees Appointed by Ethnicity and Race				
Ethnic Category	Females	Males	Sex/Gender Unknown or Not Reported	Total
Hispanic or Latino	26	16	0	42 **
Not Hispanic or Latino	38	20	1	59
Unknown (individuals not reporting ethnicity)	1	0	0	1
Ethnic Category: Total of All Trainees*	65	36	1	102 *
Racial Categories				
American Indian/Alaska Native	1	1	0	2
Asian	20	10	0	30
Native Hawaiian or Other Pacific Islander	0	0	0	0
Black or African American	7	3	0	10
White	17	9	0	26
More Than One Race	4	4	1	9
Unknown or Not Reported	16	9	0	25
Racial Categories: Total of All Trainees*	65	36	1	102 *
PART B. HISPANIC TRAINEE APPOINTMENTS REPORT: Number of Hispanics or Latinos Appointed				
Racial Categories	Females	Males	Sex/Gender Unknown or Not Reported	Total
American Indian or Alaska Native	1	1	0	2
Asian	1	1	0	2
Native Hawaiian or Other Pacific Islander	0	0	0	0
Black or African American	0	0	0	0
White	8	4	0	12
More Than One Race	1	1	0	2
Unknown or Not Reported	15	9	0	24
Racial Categories: Total of Hispanics or Latinos**	26	16	0	42 **
PART C. TRAINEES WITH DISABILITIES OR FROM DISADVANTAGED BACKGROUNDS				
Number of Trainees with Disabilities:				3
Number of Trainees from Disadvantaged Backgrounds:				76

(*) (**) These totals must agree.



CALIFORNIA STATE UNIVERSITY, LONG BEACH

OFFICE OF RESEARCH & SPONSORED PROGRAMS

DATE: September 28, 2017

TO: Alejandra Priede

FROM: California State University, Long Beach Institutional Review Board

PROJECT TITLE: [1131421-2] 2017 HERI Freshman Survey (TFS)

REFERENCE #: 18-090

SUBMISSION TYPE: New Project

ACTION: APPROVED

APPROVAL DATE: September 28, 2017

EXPIRATION DATE: September 27, 2018

REVIEW TYPE: Expedited Review

This is to advise you that the Institutional Review Board for the Protection of Human Subjects (IRB) of California State University, Long Beach, has reviewed your protocol application.

Your application is approved. The requested modifications have been received, reviewed, and accepted.

Approval is for a period of one year from the September 28, 2017 and conditional upon your willingness to carry out your continuing responsibilities under University policy. If you would like to continue this research after this one year period, please submit a renewal application and an annual report to the Office of University Research two months prior to your expiration date of September 27, 2018.

1. You must clearly indicate in the header or footer of each page of your approved Informed Consent Form the approval and expiration dates of the protocol as follows: **"Approved from September 28, 2017 to September 27, 2018 by the CSULB IRB"**.
2. You are required to inform the Director or Senior Associate Director, Office of Research & Sponsored Programs, in writing (email is acceptable) or through IRBNet within twenty-four hours of any adverse event in the conduct of research involving human subjects. The report shall include the nature of the adverse event, the names of the persons affected, the extent of the injury or breach of security, if any, and any other information material to the situation.
3. You may not change any aspect of your research procedure involving human subjects without permission from the Director, Office of Research & Sponsored Programs or the Chair of the IRB. Please use the Protocol Modification Form on IRBNet to request any changes.
4. Maintain your research records as detailed in the protocol.

Should you have any questions about the conduct of your research under this protocol, particularly about providing informed consent and unexpected contingencies, please do not hesitate to call the Office of Research & Sponsored Programs at (562) 985-8147. We wish you the best of success in your research.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within California State University, Long Beach Institutional Review Board's records.



CALIFORNIA STATE UNIVERSITY, LONG BEACH
OFFICE OF RESEARCH & SPONSORED PROGRAMS

DATE: March 29, 2018
TO: Alejandra Priede
FROM: California State University, Long Beach Institutional Review Board
PROJECT TITLE: [848155-5] HERI Your First College Year (YFCY) Survey
REFERENCE #: 18-350 [Renewal of 17-337 & 16-343]
SUBMISSION TYPE: Continuing Review/Progress Report
ACTION: APPROVED
APPROVAL DATE: March 29, 2018
EXPIRATION DATE: March 28, 2019
REVIEW TYPE: Administrative Review

This is to advise you that the Institutional Review Board for the Protection of Human Subjects (IRB) of California State University, Long Beach, has reviewed your protocol application.

Your application is approved. The requested modifications have been received, reviewed, and accepted.

Approval is for a period of one year from the March 29, 2018 and conditional upon your willingness to carry out your continuing responsibilities under University policy:

1. You must clearly indicate in the header or footer of each page of your approved Informed Consent Form the approval and expiration dates of the protocol as follows: **"Approved from March 29, 2018 to March 28, 2019 by the CSULB IRB"**.
2. If you need to make changes/revisions to this approved project, you must submit a Request for Amendment to an Approved Protocol form in addition to any documents affected by the requested change. Submit these documents as a subsequent package to your approved project in IRBNet. The CSULB IRB must approve the requested changes prior to implementing the changes to your project.
3. You are required to inform the Director of Research Integrity and Compliance, Office of Research & Sponsored Programs, via email ORSPCompliance@csulb.edu or through IRBNet within twenty-four hours of any adverse event in the conduct of research involving human subjects. The report shall include the nature of the adverse event, the names of the persons affected, the extent of the injury or breach of security, if any, and any other information material to the situation.
4. Maintain your research records as detailed in the protocol.
5. Respond to the Continuing Review notice via IRBNet before March 28, 2019 if you intend to continue this project after one year.

Should you have any questions about the conduct of your research under this protocol, particularly about providing informed consent and unexpected contingencies, please do not hesitate to call the Office of Research & Sponsored Programs at (562) 985-8147. We wish you the best of success in your research.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within California State University, Long Beach Institutional Review Board's records.



CALIFORNIA STATE UNIVERSITY, LONG BEACH

OFFICE OF RESEARCH & SPONSORED PROGRAMS

DATE: February 22, 2018

TO: Alejandra Priede, PhD

FROM: California State University, Long Beach Institutional Review Board

PROJECT TITLE: [1196380-2] 2018 Faculty Annual Follow-Up Survey

REFERENCE #: 18-281

SUBMISSION TYPE: New Project

ACTION: APPROVED

APPROVAL DATE: February 22, 2018

REVIEW TYPE: Expedited Review

This is to advise you that the Institutional Review Board for the Protection of Human Subjects (IRB) of California State University, Long Beach, has reviewed your protocol application.

Your application is approved according to the U.S. Department of Health and Human Services (HHS) regulation at 45 CFR 46.110(b)(7).

Approval is effective beginning February 22, 2018 and conditional upon your willingness to carry out your continuing responsibilities under University policy:

1. You must clearly indicate in the header or footer of each page of your approved Informed Consent Form the approval date of the protocol as follows: **"Approved February 22, 2018 by the CSULB IRB"**.
2. If you need to make changes/revisions to this approved project, you must submit a Request for Amendment to an Approved Protocol form in addition to any documents affected by the requested change. Submit these documents as a subsequent package to your approved project in IRBNet. The CSULB IRB must approve the requested changes prior to implementing the changes to your project.
3. You are required to inform the Director of Research Integrity and Compliance, Office of Research & Sponsored Programs, via email ORSPCompliance@csulb.edu or through IRBNet within twenty-four hours of any adverse event in the conduct of research involving human subjects. The report shall include the nature of the adverse event, the names of the persons affected, the extent of the injury or breach of security, if any, and any other information material to the situation.
4. Maintain your research records as detailed in the protocol.
5. Respond to the Annual Check-In notice via IRBNet if you intend to continue the project after February 21, 2019.

Should you have any questions about the conduct of your research under this protocol, particularly about providing informed consent and unexpected contingencies, please do not hesitate to call the Office of Research & Sponsored Programs at (562) 985-8147. We wish you the best of success in your research.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within California State University, Long Beach Institutional Review Board's records.



CALIFORNIA STATE UNIVERSITY, LONG BEACH
OFFICE OF RESEARCH & SPONSORED PROGRAMS

DATE: March 29, 2018

TO: Alejandra Priede, Ph.D.

FROM: California State University, Long Beach Institutional Review Board

PROJECT TITLE: [745710-5] BUILD Classes – Student Survey Data

REFERENCE #: 18-342 [Renewal of 17-336, 16-336 & 15-314]

SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED

APPROVAL DATE: March 29, 2018

EXPIRATION DATE: March 28, 2019

REVIEW TYPE: Administrative Review

This is to advise you that the Institutional Review Board for the Protection of Human Subjects (IRB) of California State University, Long Beach, has reviewed your protocol application.

Your application is approved. The requested modifications have been received, reviewed, and accepted.

Approval is for a period of one year from the March 29, 2018 and conditional upon your willingness to carry out your continuing responsibilities under University policy:

1. You must clearly indicate in the header or footer of each page of your approved Informed Consent Form the approval and expiration dates of the protocol as follows: **"Approved from March 29, 2018 to March 28, 2019 by the CSULB IRB"**.
2. If you need to make changes/revisions to this approved project, you must submit a Request for Amendment to an Approved Protocol form in addition to any documents affected by the requested change. Submit these documents as a subsequent package to your approved project in IRBNet. The CSULB IRB must approve the requested changes prior to implementing the changes to your project.
3. You are required to inform the Director of Research Integrity and Compliance, Office of Research & Sponsored Programs, via email ORSPCompliance@csulb.edu or through IRBNet within twenty-four hours of any adverse event in the conduct of research involving human subjects. The report shall include the nature of the adverse event, the names of the persons affected, the extent of the injury or breach of security, if any, and any other information material to the situation.
4. Maintain your research records as detailed in the protocol.
5. Respond to the Continuing Review notice prior to March 28, 2019 if you plan to continue the project after one year.

Should you have any questions about the conduct of your research under this protocol, particularly about providing informed consent and unexpected contingencies, please do not hesitate to call the Office of Research & Sponsored Programs at (562) 985-8147. We wish you the best of success in your research.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within California State University, Long Beach Institutional Review Board's records.



CALIFORNIA STATE UNIVERSITY, LONG BEACH
OFFICE OF RESEARCH & SPONSORED PROGRAMS

DATE: March 29, 2018

TO: Alejandra Priede, PhD
FROM: California State University, Long Beach Institutional Review Board

PROJECT TITLE: [747553-5] BUILD Summer Research Programs - Student Survey Data
REFERENCE #: 18-343 [Renewal of 17-338, 16-335 & 15-318]
SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED
APPROVAL DATE: March 29, 2018
EXPIRATION DATE: March 28, 2019
REVIEW TYPE: Administrative Review

This is to advise you that the Institutional Review Board for the Protection of Human Subjects (IRB) of California State University, Long Beach, has reviewed your protocol application.

Your application is approved. The requested modifications have been received, reviewed, and accepted.

Approval is for a period of one year from the March 29, 2018 and conditional upon your willingness to carry out your continuing responsibilities under University policy:

1. You must clearly indicate in the header or footer of each page of your approved Informed Consent Form the approval and expiration dates of the protocol as follows: **"Approved from March 29, 2018 to March 28, 2019 by the CSULB IRB"**.
2. If you need to make changes/revisions to this approved project, you must submit a Request for Amendment to an Approved Protocol form in addition to any documents affected by the requested change. Submit these documents as a subsequent package to your approved project in IRBNet. The CSULB IRB must approve the requested changes prior to implementing the changes to your project.
3. You are required to inform the Director of Research Integrity and Compliance, Office of Research & Sponsored Programs, via email ORSPCompliance@csulb.edu or through IRBNet within twenty-four hours of any adverse event in the conduct of research involving human subjects. The report shall include the nature of the adverse event, the names of the persons affected, the extent of the injury or breach of security, if any, and any other information material to the situation.
4. Maintain your research records as detailed in the protocol.
5. Respond to the Continuing Review notice via IRBNet before March 28, 2019 if you intend to continue this project after one year.

Should you have any questions about the conduct of your research under this protocol, particularly about providing informed consent and unexpected contingencies, please do not hesitate to call the Office of Research & Sponsored Programs at (562) 985-8147. We wish you the best of success in your research.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within California State University, Long Beach Institutional Review Board's records.

The following statement is required by NIH:

All students who received financial/monetary support under this TL4 award were enrolled as full-time undergraduate students in academic degree programs in biomedical science fields at CSULB only (not at Pipeline Partner, Graduate/Medical Partner or Research Partner institutions or high school students). All of the students were U.S. citizens, U.S. non-citizen nationals or permanent residents as described in the RFA-RM-13-016.

G.2 Responsible Conduct of Research

The Office of Research and Sponsored Programs (ORSP) through the Research Compliance Office oversees the training of undergraduates, graduate students, faculty, staff, and administrators and organizes workshops and makes sure that all students who are engaged in government funded research are in compliance. We worked closely with Dr. Jason Wang, the Director of Research Integrity and Compliance, and ORSP staff who has documented completion of this component for all BUILD trainees.

All Associates, Year 1 Scholars and Fellows completed the online CITI training as a part of their summer Learning Community assignments. Part of the 8 hours of face-to-face training were acquired through the Learning Community activities. Associates attended five hours during summer PREP on the topics of research lab ethics presented by Dr. Selena Nguyen-Rodriguez and reading and analysis of research articles presented by Dr. David Stout. Associates received an additional hour during the spring 2018 Learning Community on cultural issues in research and ethics presented by Dr. Mara Bird. Year 1 Scholars and Fellows received six hours of RCR workshops during summer SURGE on two topics. The first three hours were on publications and peer review process presented by Dr. Kim Vu. The remaining three hours were on the case of Henrietta Lacks led by the SURGE Training Directors (Dr. Jesse Dillon and Dr. Chi-Ah Chun). Trainees were introduced to her story and were shown the BBC documentary “The Way of All Flesh” by Adam Curtis, followed by a discussion session on the historical context and moral and legal issues with research on human subjects and tissues and breakout sessions with the GAs. During the academic year, trainees accrued the remaining hours needed by attending workshops offered by the ORSP that covered a wide range of topics including mentor/mentee responsibilities and relationships, responsible authorship and publications, data acquisition, lab tool’s management, sharing and ownership of data, and peer review process.

In summary, all of the trainees have completed the online CITI training. For the 8 hours face-to-face training, all of the Year 2 Scholars, Year 3 Scholars, and Fellows have completed the required hours. Three Associates and five Year 1 Scholars have completed between 6 to 7 hours so far. One Year 1 Scholar has completed 3 hours of face-to-face training as the trainee was absent from the Learning Community during one of the RCR workshops. The nine trainees will be able to complete the remaining hours of face-to-face training in the near future by attending additional workshops offered by the ORSP.

RCR training completion report by trainee cohorts.

	Associates (RL5)	Year 1 Scholars (TL4)	Year 2 Scholars (TL4)	Year 3 Scholars (TL4)	Fellows (RL5)	Total
CITI Training Module	24	46	37	12	3	122
Percentage	100%	100%	100%	100%	100%	100%
8 Hours Face-to- Face Training	21	40	37	12	3	113
Percentage	87%	87%	100%	100%	100%	93%

These numbers are based on the numbers of trainees in the program as of April 2, 2018, and may be lower than the numbers at the beginning of Year 4 due to attrition. It is important to note that trainees who left the program also completed all of the RCR training requirements.

PHS 398 TRAINING BUDGET

Organizational DUNS: 006199129 Budget Type: Project Subaward/Consortium
 Organization Name: CALIFORNIA STATE UNIVERSITY LONG BEACH
 Start Date: 07-01-2018 End Date: 06-30-2019

A. Stipends, Tuition/Fees												
Number of Trainees												
Full Time	Short Term									Stipends Requested (\$)	Tuition/Fees Requested (\$)	
102	0	<u>Undergraduate:</u>								1,221,036.00	380,160.00	
Number Per Stipend Level:												
		First-Year/Soph.	0	Junior/Senior		102						
0	0	<u>Predoctoral:</u>		Single Degree						0.00	0.00	
0	0			Dual Degree						0.00	0.00	
0	0			Total Predoctoral						0.00	0.00	
		<u>Postdoctoral:</u>		Number Per Stipend Level:								
		0	1	2	3	4	5	6	7			
0	0	Non-degree Seeking		0	0	0	0	0	0	0	0.00	0.00
0	0	Degree Seeking		0	0	0	0	0	0	0	0.00	0.00
0	0	Total Postdoctoral		0	0	0	0	0	0	0	0.00	0.00
0	0	<u>Other:</u>									0.00	0.00
								Totals	1,221,036.00	380,160.00		
										Total Stipends + Tuition/Fees Requested	1,601,196.00	
B. Other Direct Costs												
										Funds Requested (\$)		
Trainee Travel										184,500.00		
Training Related Expenses										33,000.00		
Total Direct Costs from R&R Budget Form (if applicable)										452,489.00		
Consortium Training Costs (if applicable)										0.00		
										Total Other Direct Costs Requested	669,989.00	
C. Total Direct Costs Requested (A + B)												
										2,271,185.00		
D. Indirect Costs												
Indirect Cost Type			Indirect Cost Rate (%)			Indirect Cost Base (\$)			Funds Requested (\$)			
1. MTDC			8.0			1,891,025.00			151,282.00			
2.			0.0			0.00			0.00			
								Total Indirect Costs Requested	151,282.00			
E. Total Direct and Indirect Costs Requested (C + D)												
										2,422,467.00		
F. Budget Justification												
CSULB_BUILD_STC_BudgetJustification_K.pdf												

BUDGET JUSTIFICATION – Student Training (ST) Core

The 8.0% allowable indirect rate for training grants was used on the submitted training budget.

Re-budgeting from RL5GM118978 To TL4GM118980

When the CSULB BUILD program was originally designed, there were what we now refer to as Associate and Scholar trainees in both the TL4 and RL5 funding mechanisms. In Year 2^[1]_[SEP] we recognized how cumbersome this was to manage, particularly since it meant that trainees doing identical things were being financially supported at differing levels. In Year 3 we moved to the current arrangement where all Associate level trainees were supported through the RL5 mechanism and all Scholars were supported under the TL4 mechanism. We did not, however, re-budget across the cores at that time, so the RL5 budget contained travel, supplies, and other support for some of the Scholars trainees. We re-budgeted \$105,000 across Cores for Year 4 to move funds with the Scholars and are now requesting to move \$189,735 (including 8% Indirect) from the Year 5 RL5 budget to the TL4 budget to continue the separation of Associate trainees to the RL5 mechanism and Scholar trainees to the TL4 mechanism.

A. Stipends Tuition/Fees

Funds are requested to support 90 BUILD Scholars (47 Year 1 & 43 Year 2 Scholars). Our 2018-2019 Year 1 Scholars application process is ongoing, so if we exceed the 47 students, we plan to ask to use remaining student support funding from Year 3 (and Year 4, if needed) as a carryforward request. All of our BUILD Scholars are undergraduate students. Scholars will receive a monthly stipend of \$1,049 (\$12,588/12 months). Year 1 Scholars and Year 2 Scholars will receive stipends for the three summer months in the Summer Research Training Program and nine months of the academic year. In some cases, Year 2 Scholars go off campus for summer training programs, but in the majority of cases we still pay their stipends. In addition, about 12 Year 3 Scholars will be supported with 7 months of stipends (summer & fall semester).

All scholars' June 2018 stipends will be covered with Year 4 funds, the rest will come from Year 5 funds. All TL4 trainees will also receive 55% of tuition paid by the BUILD award (\$1980 per semester) in Year 5.

Also, funds are requested to support Year 2 and Year 3 Scholars who are placed with UCI, one of our R1 partners, for summer internships. We have made an agreement to provide monthly stipends and housing for our BUILD scholars that participate in the UCI Summer Undergraduate Research Fellowship (SURF) Program. We expect 8 scholars to be placed with UCI in 2018.

B. Other Direct Costs:

B.1. Scholars Travel

Funds are requested to support our Scholars' travel at \$153,000 in Year 5. This covers conference travels for 102 scholars, up to \$1500 per year and some additional travels for summer internships for scholars whose programs do not provide travel support.

B.2. Training Related Expenses

Funds are requested to support the Scholars' Research Supplies (\$1,800 for Year 1 & Year 2 Scholars, \$1200 for Year 3 Scholars since they are only supported for summer and fall); fees for

a GRE Foundation Workshop (\$500 per Year 1 & Year 3 Scholars); fees for guest speakers for the learning community seminars and summer research training program (12 speakers @ \$200), poster printing costs (\$2200), and office supplies (approximately \$2,048).

B.3. Total Direct Costs from Research and Related Budget Form

Student Training (ST) Director: 2.25 academic months (25% FTE for the Fall and Spring semesters) and 1.0 summer month are requested for Dr. Jesse Dillon who will continue to serve as the ST Core Director during Year 5. If additional time is needed, the university will ensure that it is covered. The ST Director will be responsible for the overall execution of all programmatic aspects of the Student Training program. He will provide general program oversight and student tracking in coordination with the Research Enrichment (RE) Director and ST/RE Co-Directors. He will also lead the Learning Community Seminars and the 8-week Summer Research Training Program and coordinate the faculty-mentored research and other training activities.

ST Co-Directors: 1.50 academic months are requested for each of the two ST Co-Directors, Dr. Young-Hee Cho and Dr. Paul Weers. Summer month salaries (1.0 month each) for the two ST Co-Directors and the full salary lines (academic and summer) for two additional ST Training Directors (Drs. Roger Lo, Perla Ayala) and two additional faculty advisors (Dr. Niloofar Bavarian, Ms. Sarah Zigmont) are not included in this budget, so these will be requested from Year 3 and Year 4 carry forward funds after the FFR is submitted in September. Because of the increase in the number of scholars, we have found that a training faculty from each of the 4 colleges is needed to ensure that scholars get the appropriate training and information related to their specific disciplines for preparing posters for conferences as well as applications for summer internships and doctoral programs. The Co-Directors, Training Directors and faculty advisors are responsible for the execution of the programmatic aspects specific to the biomedical and behavioral tracks. Specifically, overseeing the recruitment, selection, and training of the Upper Division TL4 trainees. In addition, they assist the Director in running the Learning Community Seminars and oversee the graduate assistants as well as coordinating and overseeing the faculty mentored research activities.

Graduate Assistants: Graduate assistants will continue to be employed in both summer and academic year as described below. The hourly rate of the GAs will be the same as Year 4: \$16.

Scholars Program Graduate Assistants for Summer Training: Six Year 1 Graduate Assistants (GAs) for the Scholars Summer Research Training Program will spend 10 hours a week for 10 weeks during the summer (2 weeks of training and 8 weeks of summer program LC), assisting the ST Director/Co-Directors with various group activities and hands-on exercises conducted in the Learning Community Workshop of the SURGE for the entering cohort of UD Scholars.

Scholars Program Graduate Assistants for Academic Year: Twelve Scholars GAs will work 10 hours a week for 40 weeks during the academic year. They will assist the ST Co-Directors with various group activities and hands-on exercises conducted in the Scholars Learning Community Seminar. The Learning Community Seminar for Year 1 & Year 2 Scholars will be subdivided into twelve sections (6 sections for each cohort) for Year 5.

Year 3 Scholars Program Graduate Assistants for Academic Year:

Two Year 3 Scholars GAs will work 10 hours a week for 20 weeks during the fall semester. They

will assist the faculty advisor (S. Zigmont) with various group activities and hands-on exercises conducted in the Learning Community Seminar. The Year 3 Learning Community Seminar will be subdivided into two sections (one behavioral, one biomedical). Carryforward funds will be requested for these expenses.

Student Training Core Program Coordinator: ST Core Administrative Assistant, Nicole Streicker, is budgeted at 6 calendar months (0.5 FTE) in all five years of the program. Primary duties consist of assisting the ST Director and Co-Directors with administrative tasks associated with recruitment, selection, and evaluation of all scholars, implementation of the LD and UD training programs, and financial matters (e.g., stipends, tuition, travel, research supplies).

Learning Community Specialist: The LC Specialist, Sewwandi Abeywardana, is budgeted at 3 calendar months (0.25 FTE) on the ST core budget and 6 calendar months (0.5 FTE) on the RE core budget. Funds will be requested for the remaining 3 calendar months in a carry forward request. The specialist helps to oversee the Associate and Scholar Learning Community seminars, train and supervise the GAs, and work with the ST and RE Core staff on workshops and events that are designed to support BUILD Scholars and their faculty mentors.

Faculty Workload and Fringe Benefits

Faculty salary rates are based on the California State University and CSULB Research Foundation established salary rate(s) paid during the Academic year. Faculty in the California State University system's duties consists of 24 weighted teaching units per nine-month Academic year.

Benefits for Faculty/CSULB Staff overload work consist of FICA, SUI and Workers Compensation. Full time benefits include a benefit package consisting of FICA, State Unemployment Insurance (SUI), Worker's Compensation, non-industrial leave including vacation and sick leave, medical, dental, and life insurance benefits, and retirement benefits (PERS for State employees). Rates may vary with the number of dependents and type of coverage. The rates stated are for budgetary purposes only; at the time of award and based on work performance, the actual rates in be charged to the project.

- Faculty: Buyout / Release / Reimbursed @ 46.89% (includes FERP) and Additional/Summer/Overload
- CSULB Employees: MPP @ 53.02% / Staff @ 55.73% / Lecturers @ 41.21% / Additional/Summer/Overload @ 8.85%
- Foundation Employees: 10.68% (0%-74% Time Base/Temp); 43.55% (50%-70% Time Base/Part-Time); 65.55% (75%-100% Time Base/Full-Time)
- Students: 10.68%

Faculty Travel: Travel costs are budgeted at \$20,000 for faculty travel (\$2000/year for each person) in Year 5. This includes monies for the ST Director, two Co-Directors, and faculty chaperones to travel annually to one professional meeting with the Scholars.

C. Carryover Funds

As noted above, carryover funds from Year 3 and Year 4 will be requested to cover the salaries and benefits of the four ST training directors/advisors, Year 3 Scholars GA wages as well as additional student support if needed beyond the 90 slots budgeted for Scholars in year 5.