

**Stem Cell Scholars- from Basic Research to Clinical Translation: training a diverse pool of students in the lab, engaging them in patient and healthcare activities, motivating them to educate their immediate community and enabling them for careers in ...**

### Grant Award Details

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Stem Cell Scholars- from Basic Research to Clinical Translation: training a diverse pool of students in the lab, engaging them in patient and healthcare activities, motivating them to educate their immediate community and enabling them for careers in the stem cell therapy sector.

**Grant Type:** Bridges

**Grant Number:** EDUC2-08418

**Project Objective:** The Bridges Program provides stem cell training to 10 students per year (usually 8 undergraduate level, 2 Master level) at California State University, San Bernardino. Training includes coursework, patient engagement opportunities, outreach activities, and a 9-12 months internships in host labs at major research universities.

**Investigator:**

<b>Name:</b>	Nicole Bournias-Vardiabasis
<b>Institution:</b>	Cal State Univ, San Bernadino
<b>Type:</b>	PI

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**Award Value:** \$2,659,136

**Status:** Active

### Grant Application Details

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**Application Title:** Stem Cell Scholars- from Basic Research to Clinical Translation: training a diverse pool of students in the lab, engaging them in patient and healthcare activities, motivating them to educate their immediate community and enabling them for careers in ...

**Public Abstract:**

The Stem Cell Scholars from Basic Research to Clinical Translation training program has the following four components to ensure its success and provide a great benefit both to the students and the community that our campus serves.

1. Courses to prepare the students for research internships. Students will be trained in both the theoretical and practical aspects of stem cell biology, and therapy. Courses on stem cell biology, isolation and maintenance will ensure that the interns have the skill set to be successful and receive maximum benefit from their subsequent internship. They will also benefit from coursework that will familiarize them with the regulatory affairs process and give them an understanding of how basic research translates into a clinical trial and ultimately to a well-accepted therapeutic protocol.

2. Volunteer opportunities to ensure students engage with the community. Students will engage with patient groups, participate in healthcare activities and organize educational seminars to interested members of the community. Students will volunteer services at local hospitals or volunteer on campus to organize healthcare related events.

3. Student Society for Stem Cell Research is a student led club that will provide our students with an avenue to organize and share experiences with each other and the local community. The society offers a number of events that have both educational and engagement aspects for our own student population and the local middle and high schools. Students will perform community outreach by giving lectures at local schools, and participate in Stem Cell Symposia and seminars organized in the area by the Inland Empire Stem Cell Consortium.

4. Provide mentoring and career advice. Both the PI and host lab PIs will take a meaningful role in the mentorship of our student interns. Included in this are networking activities that will enable all of our interns to procure meaningful and satisfying careers in stem cell research and therapy sectors.

Over the 5 year period of the grant, we will train 40 undergraduate and 10 graduate students at host sites that we have established strong and highly collaborative relationships. Our strong base in the underrepresented Hispanic population ( the CSUSB entering class this year is 72% Hispanics) , along with other underrepresented minorities, including women and students with disabilities means that our Stem Cell Internship program promises to not only provide appropriately qualified graduates in the relevant disciplines but to provide diversity in these graduates as well. Our goal is to prepare these students to enter the workforce sector that has been created as a result of the CIRM grant funding. Work possibilities include research technician positions, regulatory affairs professionals, or going on to advanced educational programs such as medical or graduate schools and ultimately serving in translational medicine clinics.

**Statement of Benefit to California:**

This renewal proposal aims to recruit, identify, educate and train a diverse group of 10 undergraduate and graduate students in stem cell research and therapy. The passage of Proposition 71 in 2004 provided Californians with a landmark opportunity to pursue the development of stem cells to provide therapeutic treatments. In 2015, the landscape in terms of CIRM's programmatic needs has shifted to wanting to train a diverse group of undergraduate level and masters level students not only in technical skills but also engaging these students to become stakeholders in the pipeline by carrying out significant community and patient outreach efforts and understanding the regulatory hurdles and issues that challenge the transition from discovery to therapy. Because of our strong base of Hispanic students underrepresented in the sciences along with other minorities, women and students with disabilities, our Stem Scholars Internship program promises not only to provide appropriate trained and qualified graduates but to give them opportunities to contribute to their local community both by educating middle and high school students and volunteering in a variety of settings in the healthcare sector.

Our program will have the following components:

1. Effective recruitment of students, mentoring and career advising.
2. Educating and training the interns in basic tissue culture and advanced human embryonic cell culture techniques, stem cell biology theory, basic concepts in regulatory affairs and how a human embryonic cell can end up providing a therapy for a diverse group of patients with as yet unmet medical needs.
3. Patient and healthcare engagement by volunteering in support groups, visiting Alpha Stem Cell Clinics funded by CIRM.
4. The Student Society for Stem Cell Research will spearhead educational outreach components that will include local campus seminars, regional Stem Cell Symposia, delivering lectures at local middle and high schools and also attending regional conferences that are patient centric.
5. Over the five year period of the grant, we will train 40 undergraduate and 10 masters level students. Our goal is to prepare these students to be able to enter the workforce and contribute their expertise and training in a variety of healthcare delivery settings, from carrying out research in a lab to being a stem cell therapy physician. We certainly see ourselves as part of the mission of improving the health and quality of life for the millions of people for whom no therapies are currently available for their chronic disease or injury.

A quote from a past CIRM Bridges Scholar can partially validate our past success with our interns. "Had it not been for the CIRM Bridges program, I would not be where I am today. I would not have had the letters of recommendation, the three pending publications, or the stem cell research that set me apart from other applicants. I additionally would not have developed my interest in regenerative medicine.."

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**Source URL:** <https://www.cirm.ca.gov/our-progress/awards/stem-cell-scholars-basic-research-clinical-translation-training-diverse-pool>