

# Memorandum

**To:** Members of the ICOC  
**From:** CIRM Leadership Team  
**Re:** Proposed Supplement to Support Continuation of EDUC4 (Scholars Program)  
**Date:** September 24, 2026

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## Executive Summary

In June 2026, the ICOC approved an allocation of \$90M to provide an extension for CIRM's EDUC4 or "CIRM Scholars" Awards, which are expiring at the end of 2026. EDUC4 supports regenerative medicine-based research training for predoctoral, postdoctoral, and clinical fellows across 18 institutions in California.

With this item, the team presents a mechanism and proposal for how this extension shall be implemented through supplemental funding to all 18 awardees, supporting continued training for current and future innovators while maintaining critical infrastructure for workforce development. The mechanism also provides an opportunity for programs to update and better adapt to evolving economic, technological, and funding landscapes, and to maximize their impact on CIRM's strategic goals.

This memo elaborates on the proposed EDUC4 extension mechanism and provides an appendix with detailed background information on the CIRM Scholars program and its historical outcomes. We request that the ICOC approve the proposed supplement/extension mechanism to enable continued support for EDUC4.

# I. Background

## Proposal Snapshot

- Purpose: Provide supplements of up to \$5M for each of CIRM's 18 EDUC4 awardee institutions, whose current grants expire at the end of 2026. The supplements will enable EDUC4 programs to continue operations for an additional 5 years.
- Eligibility: Institutions with EDUC4 programs that are in good standing (up to date progress reporting, fulfilling EDUC4 objectives, compliance with CIRM policies) may apply to receive the supplement.
- Eligible costs: The \$5M supplements will support trainee stipends and research-associated allowances, program administration costs, and 10% indirect costs applied to eligible expenses. More details are provided in Section III.

## Problem Statement and Rationale

In late 2021, CIRM's Governing Board approved an investment of \$90M to establish a Research Training program that prepares predoctoral, postdoctoral, and clinical fellows to become leaders and innovators in regenerative medicine. This new EDUC4 initiative modernized the successful CIRM Scholars program, which played a critical role in advancing CIRM's mission during the Proposition 71 era. EDUC4 grants were awarded to 18 institutions across California, providing over 400 individuals to date with diverse, cutting-edge skillsets. Beyond their role in innovating and progressing regenerative knowledge through their sponsored research, CIRM Scholars contribute to workforce development as mentors of early-stage students. This advanced training pipeline is essential to achieve CIRM's mission and strategic goals and maintain California's position as a global leader in regenerative medicine.

EDUC4 awards will expire in late 2026. As federal support for workforce development and diversity programs declines nationwide, discontinuing this investment will dismantle a uniquely effective training infrastructure in California, risking a loss of key talent at a time when it is most needed.

Extending current EDUC4 awards is the most efficient path to continued funding, as it leverages existing infrastructure and avoids a loss of funding continuity. An extension of existing programs also enables EDUC4 awardees to make administrative improvements and modernize elements of their programs to keep pace with changes in technology and the current economy. As the proposed extension would follow an established process used to extend CIRM Scholars and Bridges programs previously, the operational burden to the CIRM Team for effecting the extensions would be limited.

## II. Proposal

### Budget and Scope

The original EDUC4 **concept, approved in February 2021**, provided \$5 million in funding over five years to support the training of approximately 400–500 individuals across 18 institutions. In 2023, the ICOC authorized supplemental funding for each EDUC4 awardee to accommodate increases in trainee compensation and to align stipends with updated UCOP salary scales. In line with historical practices, we propose to provide each EDUC4 awardee with an additional \$5 million supplement to support continued program operations for five years.

To develop the budget for a five-year extension, CIRM's Discovery and Education and Grants Management Teams collaborated to assess current EDUC4 budget structures, year-over-year expenditures, and projected increases based on inflation (CPI) and UCOP salary adjustments. Based on these analyses, we are proposing an increase of 3.18% to trainee-related and program administration cost categories, as illustrated in the tables below.

**Table 1.** EDUC4 annual budget categories for current awards based on original concept (left, and with 2023 supplements, right).

**Table 2.** New proposed budgets for EDUC4 during Year 6-10 extension.

**Table 3.** Allocation breakdown for 18 EDUC4 Award supplements for Year 6-10 extension.

| Table 1         | 2021 Original Concept Budget |                   |                   | 2023 Stipends (Supplements to Pre/Postdoc) |                   |                    |
|-----------------|------------------------------|-------------------|-------------------|--------------------------------------------|-------------------|--------------------|
|                 | Predoc                       | Postdoc           | Clinical          | Predoc                                     | Postdoc           | Clinical           |
| Stipends        | \$36,000                     | \$51,000-\$74,000 | \$74,000-\$94,000 | \$39,142-\$56,850                          | \$71,490-\$85,734 | \$93,000-\$106,000 |
| Trainee Support | \$22,000                     | \$17,000          | \$24,000          | \$22,000                                   | \$17,000          | \$24,000           |
| Program Admin   | \$69,000                     |                   |                   |                                            |                   |                    |

| Table 2                                                                      | 2026 Proposed EDUC4 Extension (annual) |                   |                    |
|------------------------------------------------------------------------------|----------------------------------------|-------------------|--------------------|
|                                                                              | Predoc                                 | Postdoc           | Clinical           |
| Stipends                                                                     | \$40,387-\$58,658                      | \$73,763-\$88,460 | \$95,957-\$109,371 |
| Trainee Support<br>- tuition/fees<br>- health insurance<br>- research/travel | \$22,700                               | \$17,540          | \$24,760           |
| Program Admin                                                                | \$71,190                               |                   |                    |

| Table 3                          | EDUC Extension Supplement |
|----------------------------------|---------------------------|
| CIRM Investment (18 Supplements) | \$90M                     |
| Total Award Amount (Max)         | \$5M                      |
| Supplement Award Duration        | 5 years                   |
| Trainee Appointment Duration     | 2-3 years each            |

|                                          |                            |
|------------------------------------------|----------------------------|
| <b>Program Administration (Max)</b>      | \$355,950                  |
| <b>Total Direct Costs Per Trainee/Yr</b> | <b>\$63,087- \$134,131</b> |
| <b>Total Individuals Trained</b>         | 215-325                    |

Conservatively, each \$5M supplement is sufficient to support a program with a blend of all three trainee levels (e.g. 4 Predocs, 4 Postdocs, 1 Clin Fellow/year). Cost-sharing at institutions enables this number to be expanded significantly.

## Execution and Administration

CIRM will require existing EDUC4 grantees to formally submit requests for supplemental funding, including detailed budgets and narratives to describe program updates to ensure alignment with the impact goals from CIRM's Strategic Allocation Framework. Examples of such updates could include further diversification of fellowship opportunities, incorporation of data sharing/AI literacy training, proposed interactions with CIRM's Clinical Infrastructure Network, etc. Requests will be made using templates provided by CIRM and submitted online for processing by Science Officers and Grants Management Officers using established due diligence workflows and existing Grants Management System (GMS) infrastructure.

## IV. Summary of Requested Action

The CIRM team requests ICOC approval of the EDUC4 Extension Supplement proposal.

## V. Exhibits to Memo

- CIRM's Current Training Portfolio
- CIRM Scholars: Program Evolution
- CIRM Scholars: High-Level Outcomes and Impact

### CIRM's Current Training Portfolio

Since its establishment, CIRM has recognized that research training constitutes a critical component in developing and maintaining a qualified workforce capable of advancing regenerative medicine innovation and addressing complex technical challenges. To support this objective, CIRM has developed a comprehensive portfolio of educational initiatives (Table A1) that provide specialized instruction and laboratory research experiences to trainees at multiple academic levels throughout California. Beyond technical training, each of these programs ensures that trainees develop a comprehensive understanding of patient advocacy and community engagement, thereby connecting their research activities to the therapeutic applications that will directly benefit the residents of California.

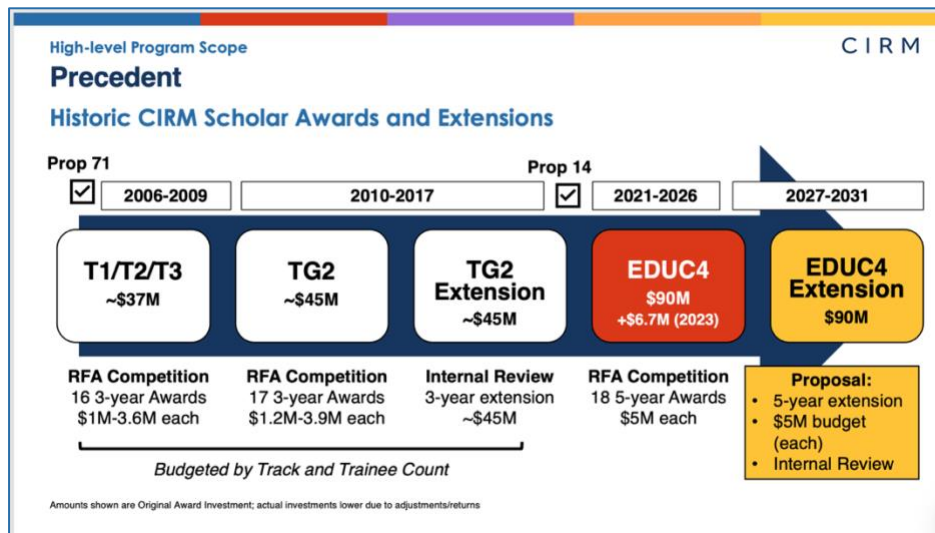
**Table A1.** CIRM's Active Training Grant Programs (2021-2027) and Extension Paths

| Program                      | Trainee Target                                                                         | Focus                                                                                     | Extension (2027-2032)                         |
|------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>CIRM Scholars (EDUC4)</b> | Doctoral candidates, postdoctoral researchers, clinical fellows                        | Prepares future leaders and innovators in regenerative medicine                           | <b>Proposed; subject of this memo</b>         |
| <b>Bridges (EDUC2)</b>       | Undergraduate through master's students from state universities and community colleges | Provides access to hands-on research training in academic and biotechnology industry labs | Supported through EDUC8 awards; approved 2025 |
| <b>SPARK (EDUC3)</b>         | High school students                                                                   | Intensive summer research internship experiences                                          | Supported through EDUC3 awards; approved 2025 |

|                            |                                                                 |                                                                                             |                                               |
|----------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>COMPASS<br/>(EDUC5)</b> | Early-stage undergraduate students in colleges and universities | Academic support and mentoring with emphasis on identifying and cultivating emerging talent | Supported through EDUC8 awards; approved 2025 |
|----------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------|

## CIRM Scholars: Program Evolution

EDUC4 is the most recent variation of the Research Training Awards, the first initiative to be created by CIRM after the passage of Proposition 71 (T1/2/3). Originally conceived as a 3-year program to support training for predoctoral, postdoctoral, and clinical fellows (aka “CIRM Scholars”), the program was extended for another 6 years through an RFA competition in 2009 (TG2 Awards), and a 3-year extension supplement in 2013 (Figure A1). The CIRM Scholars program began to wind down in 2016 as Proposition 71 funds were depleted and funding priorities were shifted to more clinical stage programs.

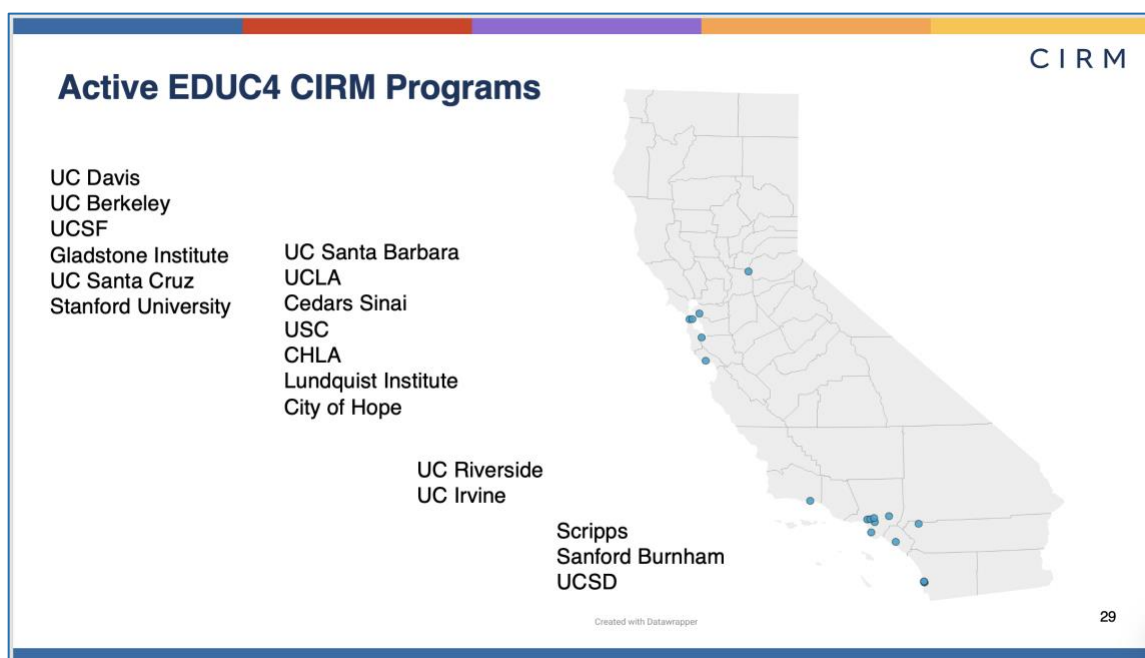


**Figure A1.** Timeline of Funding for CIRM Scholars Grants

When Proposition 14 passed in 2020, CIRM rapidly moved to initiate a new, modernized version of the Research Training Awards, expanding the scope to align with the addition of genetic therapy to CIRM’s stem cell research mandate. EDUC4 was created from this effort, a streamlined five-year program with updated budgets and structures, designed to train the next generation of leaders and innovators that will contribute to CIRM’s mission. Following GWG review and recommendation, 18 institutions were awarded EDUC4 grants in late 2021 (Figure A2). Since that time, over 400 trainees have

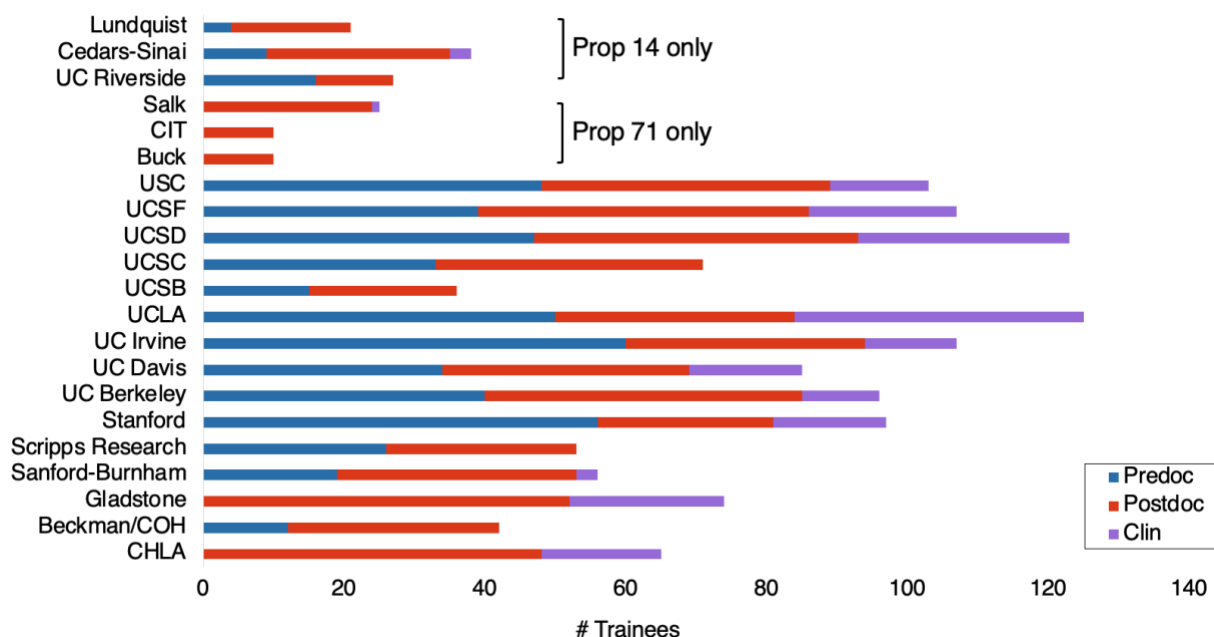
participated in the program, joining about 900 alumni from the earlier T and TG2 initiatives.

Training graduate students and postdoctoral scientists requires institutions with the research capacity, faculty expertise, and infrastructure to provide advanced, hands-on training in regenerative medicine. R1 universities and other institutions with PhD-level research faculty offer active research programs, specialized laboratories and core facilities, multidisciplinary collaborations, and experienced investigators who can provide the mentorship and guidance necessary for trainees to develop independent research skills and engage in rigorous, hypothesis-driven research. A limited number of institutions in California have the necessary components to provide this level of advanced training in regenerative medicine, and current EDUC4 programs encompass the majority of institutions statewide that have the capacity to deliver such training (Figure A2). The broad reach of these programs allows CIRM to leverage existing institutional capacity and maximize the impact of its investment in workforce development.



**Figure A2.** 18 R1 universities and advanced research institutes host EDUC4 programs in California.

Since Proposition 71, the CIRM Scholars program has trained many predoc, postdoc, and clinical fellow trainees at a total of twenty-one institutions across California. Fifteen of the current institutions with EDUC4 awards had predecessor programs supported through these earlier grants. Three new institutions created CIRM Scholars programs through EDUC4 (Proposition 14), as seen below in Figure A3.

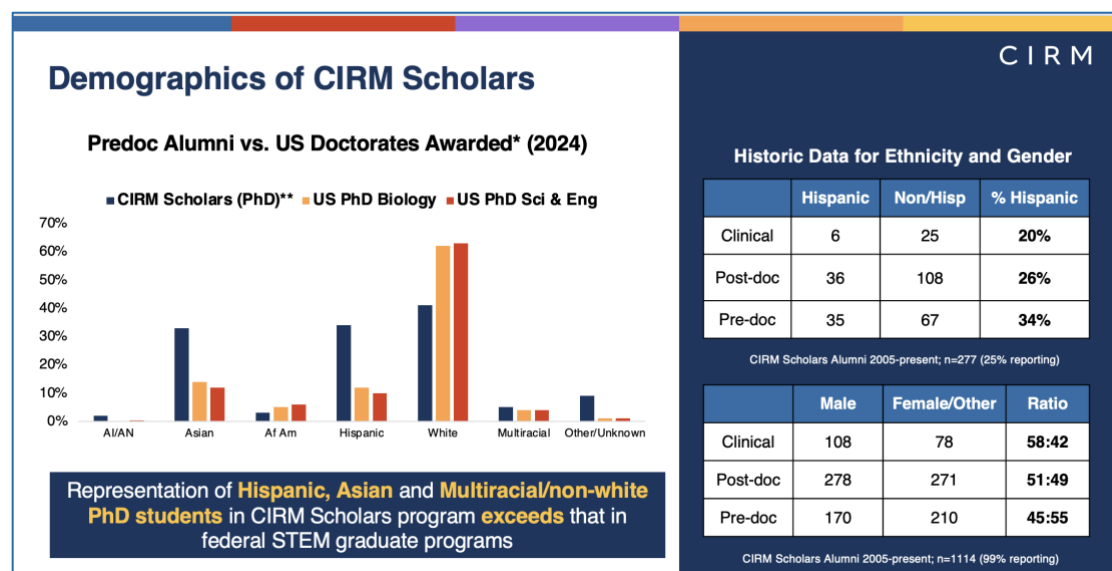


**Figure A3.** Number of CIRM Scholars trained to date at each institution. 3 new programs were created under Proposition 14, whereas 3 institutions supported trainees only in the Proposition 71 Era. 15 institutions have supported CIRM Scholars under both propositions.

## EDUC4 Population Impact

EDUC4 has been essential to developing the advanced scientific talent needed to drive innovation in California's regenerative medicine ecosystem. Unlike undergraduate and master's-level programs such as COMPASS (EDUC5) and Bridges (EDUC2), which can actively recruit students from diverse backgrounds and connect them with research opportunities, EDUC4 programs draw from an existing pool of graduate students, postdoctoral researchers, and clinical fellows whose demographic composition has been shaped by broader national trends in advanced scientific training. In addition, advanced trainees typically select programs and research laboratories based on highly specific scientific interests, geographic considerations, and career goals, which limits the ability of EDUC4 programs to directly recruit from targeted populations. Thus, while EDUC4 programs can and do promote inclusive recruitment and mentoring, their ability to change the demographic composition of the advanced trainee pool is inherently more limited than that of programs operating earlier in the educational pipeline (Figure A4).

To address this challenge, CIRM actively requires EDUC4 trainees to participate in community outreach, mentorship, and patient engagement activities, to diversify and expand the pipeline for future generations. These activities also help raise awareness of and sensitivity to the concerns and needs of diverse populations in CA, particularly those that have been historically underserved or underrepresented in the sciences. These perspectives are vital on many fronts, from building trust in communities, to advocating for science, and to shaping research pursuits to better address the needs of those who may benefit. EDUC4 trainees are also active mentors to earlier-stage trainees ranging from high school students to undergraduates and post-baccalaureates. Through annual reports to CIRM, EDUC4 programs shared that trainees are essential mentors to CIRM SPARK (high school), Bridges, and COMPASS trainees, in addition to youth in other community groups. This type of cross-program mentorship reflects on the regenerative medicine workforce pipeline that CIRM is actively building to create a new generation of diverse and innovative scientists.

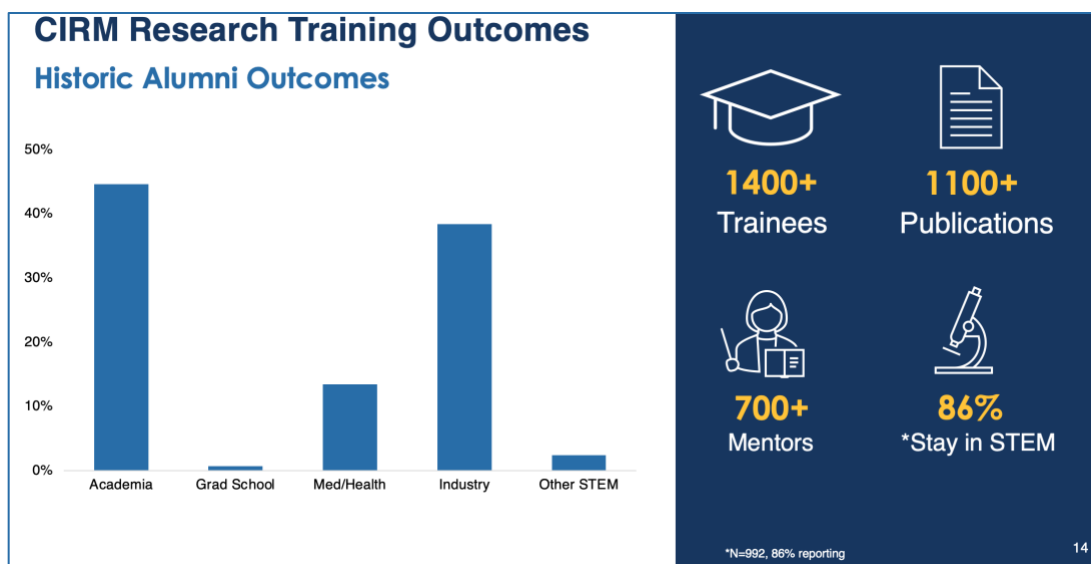


**Figure A4. Representation of Hispanic, Asian, Native American, and multiracial trainee populations within EDUC4 is above baseline from federal equivalents.** The demographics for EDUC4 predoctoral trainees (PhD candidates, blue bar) compared to NSF survey of US doctorates earned in 2024 for US citizens and permanent residents. In yellow is the percentage of doctorates awarded in the Biology and Biomedical Sciences field, and in red is the percentage of doctorates awarded in the Science and Engineering fields at large. These data validate the continued importance of mentor training and outreach in EDUC4 to further shape advanced stages of the scientific workforce pipeline. \*Sources: National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2024; CIRM Grant Reported Trainee Data- 102 reporting ethnicity, 515 reporting race; ethnicity can overlap with racial identity.

## CIRM Scholars: High-Level Outcomes and Impact

### Alumni Highlights

Since its inception in 2006, the CIRM Scholars program has trained over 1400 scientists, 86% of whom remain in a STEM-relevant field (Figure A5). Trainees largely stay in academia or industry, with many also going into medicine or other health-related professions. Trainees have contributed to over 1100 publications during their time in the program. Additionally, over 700 mentors were involved in advising and guiding trainees throughout their academic journey.



**Figure A5.** CIRM Scholars program training outcomes since 2006.

## CIRM Scholars Awarded CIRM Grants as PI

Many CIRM Scholar alumni have moved onto faculty or other scientific leadership positions around California, continuing to active contributors in the regenerative medicine and biomedical fields. Table A2 lists CIRM Scholars who were awarded grants from various coveted CIRM R&D programs, ranging from Faculty support, early basic research to clinical trial programs. Another sizeable number have applied for but not yet received CIRM Awards through current programs.

| CIRM Scholar Name    | Training Site | Training Period | CIRM Grants Awarded   | Current Position                     |
|----------------------|---------------|-----------------|-----------------------|--------------------------------------|
| Aijun Wang           | UCLA          | 2010-2011       | DISC2, TRAN3          | Professor, UCD                       |
| Akanksha Chhabra     | UCLA          | 2008-2009       | TRAN1                 | Sr Director, Immunology, Maro Bio    |
| Ann Zovein           | UCLA          | 2006-2009       | RN3 New Faculty       | CSO, Angitia Bio                     |
| Anthony Conway       | UCB           | 2011-2012       | CLIN2*                | VP, Head of R&D, ProKidney Corp      |
| Dinesh Rao           | UCLA          | 2008-2009       | DISC2                 | Professor, UCLA                      |
| Edward Kavalierchik  | UCSD          | 2006-2009       | CLIN2 (at Angiocrine) | Sr Medical Dir, Genemab              |
| Fernando Fierro      | UCD           | 2010-2012       | EDUC3 SPARK           | Associate Adjunct Professor, UCD     |
| Julia Kaye           | Gladstone     | 2011-2014       | DISC0                 | Research Investigator, Gladstone     |
| Linda Cambier        | USC           | 2012-2013       | DISC1                 | Research Associate, CHLA             |
| Mathew Blurton Jones | UCI           | 2006-2007       | RT3, DISC2 (2)        | Professor, UCI                       |
| Mercedes Paredes     | UCSF          | 2006-2007       | DISC4-ReMIND          | Professor in Residence, UCSF         |
| Momoko Watanabe      | UCI           | 2009-2012       | DISC0*                | Assistant Professor, UCI             |
| Munjal Achayra       | UCI           | 2009-2011       | DISC2                 | Associate Professor, UCI             |
| Reza Ardehali        | UCLA          | 2009-2010       | RN3 New Faculty       | Professor, Baylor College of Med     |
| Sanjeev Ranade       | Scripps       | 2011-2013       | EDUC3 SPARK           | Assistant Professor, Sanford-Burnham |
| Yin Shen             | UCLA          | 2006-2008       | DISC0                 | Associate Professor, UCSF            |

**Table A2.** CIRM Scholar Alumni who have become Principal Investigators on CIRM Awards. \*ICOC awarded, applicant declined

There are many other notable CIRM Scholar alumni whose positions have been tracked over the years - many who have been highlighted in previous reports to the ICOC. Below is a small sampling of current positions in both academia and industry where former CIRM trainees are making an impact.

| CIRM Scholar              | Training Site   | Training Period | Recent/Current Positions                                                                      |
|---------------------------|-----------------|-----------------|-----------------------------------------------------------------------------------------------|
| Ilyas Singec              | Sanford-Burnham | 2010-2012       | Director, NIH Stem Cell Translation Lab (NCATS); CSO, Fujifilm Cellular Dynamics; CEO Biotech |
| Alex Colas                | Sanford-Burnham | 2010-2011       | Professor, SBP                                                                                |
| Matt Tierney              | Sanford-Burnham | 2022-2023       | Science & Engineer Technical Advisor, ARPA-H                                                  |
| Bindu Kanatthethath Sathi | UC Berkeley     | 2008-2011       | Dir, SCD Programs, Valley Children's Healthcare, Fresno                                       |
| Joseph Peltier            | UC Berkeley     | 2007-2009       | Director & Head Technical Innovation Strategy, BioMarin                                       |
| Jaclyn Ho                 | UC Berkeley     | 2013-2014       | Director of Business and R&D, Revolution Medicines                                            |
| Kereshmeh Taravosh-Lahn   | UC Berkeley     | 2013-2014       | Sr, Principal Scientist, Neurocrine Biosciences                                               |
| Raymond Wong              | UCI             | 2008-2009       | Head of Cellular Reprogramming, CERA                                                          |
| Kristine Freude           | UCI             | 2006-2009       | Professor, University of Copenhagen                                                           |
| Jennifer Chia             | UCLA            | 2004-2006       | Assistant Professor, UCLA                                                                     |
| Anna Beaudin              | UCSC            | 2011-2014       | Professor, University of Utah                                                                 |
| Sharmilla Chatterjee      | UCSC            | 2013-2015       | Sr. Scientific Manager, Genentech                                                             |
| Megan Hall                | UCSC            | 2007-2009       | VP Medical Affairs, Grail                                                                     |
| Anthony Parenti           | UCSC            | 2010-2014       | VP Legal, Moonlight Bio                                                                       |
| Rachel Kerslake           | UCSC            | 2023-2024       | Sr. Editor, eClinicalMedicine, the Lancet                                                     |
| William Go                | UCSD            | 2011            | CMO, Janux Therapeutics                                                                       |

| CIRM Scholar           | Training Site | Training Period | Recent/Current Positions                                                             |
|------------------------|---------------|-----------------|--------------------------------------------------------------------------------------|
| Erin LaMontagne        | UCSD          | 2022            | VP R&D, Oxylo                                                                        |
| Sushani Gopalakrishnan | USC           | 2013-2016       | Scientific Director, Allogene Therapeutics                                           |
| Alex Qiuyu Guo         | USC           | 2014-2015       | Sr Scientist, Amgen                                                                  |
| Joanna Smeeton         | USC           | 2014-2016       | Assistant Professor, Columbia University                                             |
| Guanyi Huang           | USC           | 2012-2012       | Associate Principal Scientist, Merck                                                 |
| Kathryn Ivey           | Gladstone     | 2006-2009       | Head of Research, Tenaya Therapeutics                                                |
| Britney Pennington     | UCSB          | 2012-2015       | Director of Process Development, Regenerative Patch Technologies/COMPASS co-director |

**Table A3.** Other Notable CIRM Scholar Alumni

## Institutional Impact

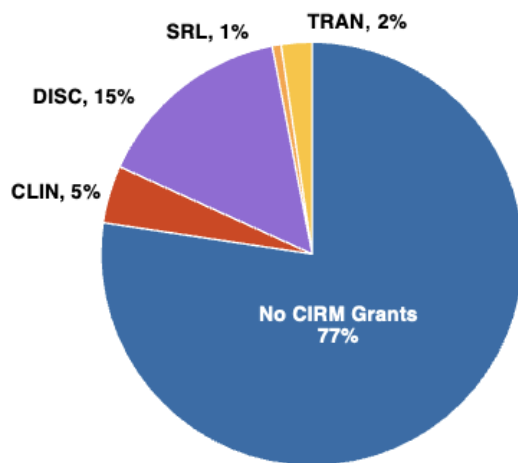
EDUC4 funding provides benefits that extend well beyond the individual trainees that are directly supported by the award, helping institutions build and strengthen their overall training capabilities.

Below is a summarized list of benefits shared with CIRM through surveys and other reports with a few highlighted examples to illustrate the program's broader impact.

- Boosted workforce development and career retention in California. The majority of CIRM Scholar alumni remain in scientific careers (e.g. up to 98% for UCSC alumni), and many stay in CA for their next steps (e.g. 88% retention reported by Sanford Burnham).
- Introduced translational & patient-facing research emphasis to trainees. USC reported generation of data by CIRM Scholars that supported clinical applications in stem cell aging, heart regeneration, craniofacial and skeletal regeneration, and hearing restoration.
- Fostered cross-institutional and interdisciplinary collaborations, such as the Lundquist/CHLA/UCLA partnership, La Jolla Mesa Network, and UCR-City of Hope partnerships.
- Trainees' contributions to science, communicated through publications in peer-reviewed journals, enabled acquisition of new funding from granting agencies and venture capital, reinforcing the strong reputation of these institutions and their ability to attract and retain talent. Scripps notes that their trainees have directly contributed to securing over \$38 million in regenerative medicine funding through awards from NIH, HHMI, Sloan Research, Helmsley Trust, and CIRM DISC4. UCSC was able to secure an additional ~\$6.5 million in federal funding towards additional training programs such as T32 and IRACDA grants.
- Supported mentorship pipelines and educational ecosystems. Virtually all EDUC4 programs collaborate with and mentor participants from CIRM's earlier stage EDUC programs (SPARK, COMPASS, Bridges). Bridges students are often hosted at one of these institutions in order to do cutting-edge regenerative medicine research. UCR offers an internal SPARK > COMPASS > Scholar pipeline in one institution, while also fostering interactions between Bridges students from Cal State San Bernardino, who do research internships at UCR.
- Strengthened diversity, community outreach, and engagement. Many EDUC4 programs engage meaningfully with members of their communities. For example, Lundquist reaches diverse South Bay and Los Angeles communities through high school programs, Mini Medical School, and partnerships like DREAM at Gardena

High School. USC works with local youth nonprofits and high schools to promote regenerative medicine science.

- Strengthened institutional research infrastructure. CIRM funding consistently expanded host institutions' capabilities. The Lundquist Institute expanded its training infrastructure across multiple organ systems and technology platforms. UCR trainees introduced organoid culture and organotypic models to the campus. USC credited CIRM Scholars funding to the inception of its PhD Program in Development, Stem Cells and Regenerative Medicine. Stanford used this funding in part to build its Stem Cell Biology and Regenerative Medicine program, the first PhD-granting stem cell biology program in the nation.
- Extended the footprint of regenerative medicine science and talent that can be supported in California. CIRM Scholar participation at institutions increases impact on CIRM's mission by greatly expanding the numbers and types of regenerative medicine-relevant projects that can be supported with CIRM funds. 77% of laboratory mentors training CIRM Scholars do not have CIRM funding of their own (Figure A6). EDUC4 enables these labs to progress research and provide further training and mentorship to a future scientific and educational workforce.



**Figure A6.** 77% of labs/mentors hosting EDUC4 trainees do not have active CIRM R&D awards of their own. The remaining 33% have one or more funded grants awarded to the mentor through CIRM's R&D and INFR programs, as indicated.