

**SOMETHING  
BETTER  
THAN HOPE**

**Concept Proposals for Bridges and  
Research Training Programs**

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# Background

- CIRM has offered funding opportunities to support training and workforce development in stem cell-based research through our Education (EDUC) programs.
- CIRM is proposing to relaunch the Bridges and Research Training programs under Proposition 14 and concept plans are presented. The SPARK Program concept will be brought back at a later date.
- The CIRM Board at its January meeting requested that a proposal for a possible supplement to current Bridges Training Program awardees be considered. We will bring a proposal to the March ICOC meeting.



## Education Pillar : Training Programs 2005-2020

### SPARK

HIGH SCHOOL

9 awards  
454 trained  
\$4M/9 yrs

### Bridges

UNDERGRAD/MASTERS

16 awards  
1611\* trained  
\$94M/ 12 yrs

### Research Training

PRE/POSTDOCTORAL,  
CLINICAL

18 awards  
940 trained  
\$117M/9 yrs

\*Alumni and Presently Completing

# Proposed Bridges Training Program Concept

## **Objective**

- Enable training that will significantly enhance the technical skills, knowledge, and experience of a diverse cohort of undergraduate and master's level students from California's state universities and community colleges
- Foster a commitment among trainees to the goal of accelerating the delivery of stem cell-based and gene therapy treatments to patients with unmet needs
- Broaden the participation in regenerative medicine of individuals representing the diversity of California's population

# Proposed Bridges Training Program Concept

## Objective

- Create a cadre of technically skilled, stem cell ambassadors with an awareness and appreciation of inequities that impact development of therapies for all
- Promote trainees' efficient transition to careers in the life sciences and regenerative medicine by directly linking educational programs to organizations and companies focused on stem cell and gene therapy research and related disciplines

i.e., creating opportunities (a “bridge”) for students that may not otherwise have access to cutting edge research and facilities for stem cell and gene therapy

# Structure of the Bridges Training Program

- The awardee or “home institution” is responsible for the management and coordination of activities and recruitment of trainees. Must be integrated into a degree or certificate program at the home institution
- Research internships take place at partner or “host” institutions, which are biotech or pharmaceutical companies, research universities or institutes
- Educational enhancement activities to prepare students for internship including an advanced cell culture techniques course
- Patient (or patient advocate) and healthcare engagement activities to engage trainees with patients/patient advocates and provide insights into the challenges of developing new cell therapies and drugs

# Structure of the Bridges Training Program

- Community outreach activities to educate others about stem cells/gene therapy research and to gain awareness of socioeconomic issues and disparities
- Advising and career development activities

# Award Priorities

- Applications that offer matching funds or verified in-kind support
- Applications that enhance the geographic distribution of training and socio-economic diversity



# Proposed Budget Allocation for Bridges Program

Bridges program to support undergraduate and Masters level students in stem cell and/or gene therapy research

- Allocation of \$65M
- Support for about 18 awards
- 5-year duration
- \$3.6M per award to support up to 10 trainees per year
- Supports trainee stipends, tuition & fees, research supplies, coursework, and program administration

# Requested Action

CIRM requests the Board approve the proposed Bridges Training Program concept with an allocation of \$65M.

# Proposed Research Training Program Concept

## **Objective**

- Enable training programs that create future leaders in the stem cell, gene therapy and regenerative medicine fields.
- Foster a commitment among trainees to the goal of accelerating the delivery of treatments to patients with unmet needs.
- Broaden the participation in regenerative medicine of individuals representing the diversity of California's population.

# Proposed Research Training Program Concept

## **Objective**

- Provide research training in stem cell, gene therapy and related disciplines to a diverse cadre of individuals drawn from a wide variety of scientific backgrounds.
- Promote interactions among trainees from different fields, especially those trained in basic sciences, engineering, translational research and clinical medicine.
- Prepare a workforce of skilled, stem cell ambassadors with an awareness and appreciation of inequities that impact development of therapies for all.

# Structure of the Research Training Program

- **Mentored Laboratory Research** in stem cell, gene therapy and/or regenerative medicine-related research or key supportive disciplines. leading towards their degree, faculty position or career advancement
- **Stem Cell/Regenerative Medicine Relevant Coursework:** All training programs must offer 1) one or more classes in stem cell/regenerative medicine and its application to health and disease; 2) a required course in the social, legal and ethical implications of stem cell/regenerative medicine research; and 3) a specialized course in another area with high relevance to the advancement of regenerative medicine approaches
- **Patient Engagement and Community Outreach Activities** to raise awareness of patient needs and to foster sensitivity around issues of access and inclusion that differentially impact communities in California, particularly those that are disadvantaged by socio-economic status and/or other factors.

# Structure of the Research Training Program

- **Pre-doctoral graduate students:** Trainees in this category should be supported for a minimum period of 3 years
- **Post-doctoral fellows:** Trainees in this category should be supported for a minimum period of 2 years
- **Clinical trainees:** Trainees in this category should be supported for a minimum period of 2 years

# Proposed Budget Allocation for Research Training

The program supports predoctoral, postdoctoral and clinical trainees in stem cell and/or gene therapy research

- Allocation of \$100M
- Support for about 20 awards
- 5-year duration
- \$5.0M per award
- Supports trainee stipends, tuition & fees, research supplies, travel, coursework, and program administration

# Requested Action

CIRM requests the Board approve the proposed Research Training Program concept with an allocation of \$100M.