# SOMETHIC BETTER THAN HOPE

#### **Concept Proposal for SPARK\* Training Program**

\* SUMMER PROGRAM TO ACCELERATE REGENERATIVE MEDICINE KNOWLEDGE

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#### **CIRM Investments: Five Funding Pillars**



## Extending CIRM Training Pipeline for 2021 and Beyond



# Background

- CIRM has offered funding opportunities to support training and workforce development in stem cell-based research through our Education (EDUC) programs
- Historically, CIRM has supported high school internships through two RFAs, the original "Creativity Awards" in 2011, and a revised program in 2015, the SPARK Awards
- Federal funding opportunities for high school level research training are limited and disparate
- CIRM is proposing to relaunch the SPARK awards (EDUC3) to allow continued support for high school level research training in regenerative medicine
- Modifications to the SPARK Concept are proposed to bring the program into alignment with Proposition 14 objectives, and to better reflect present challenges and opportunities- to be detailed in this presentation

#### SPARK Program: High School Summer Research Experience

**Objective:** To provide high school students with hands-on training in stem cell research through summer internships and to inspire their interest in regenerative medicine

**Structure:** SPARK programs supplement and integrate within existing summer programs sponsored by eligible California institutions



**Funding:** TC1 grants (2011-2015) - RFA offered 2012 EDUC3 grants (2016-2021) - RFA last offered 2015



#### SPARK/Creativity Awards: 10 Programs Across California





#### **SPARK: Core Program Features**

Preparatory Courses and Workshops



Patient Engagement, Community Outreach and Social Media



Summer Research Internship



Annual SPARK Poster Day



#### **SPARK Program: Outcomes and Impact to Date**

- 482 students have completed internships since 2012\*
- Some trainees are still in high school, but of **171** alumni who reported college attendance:
  - 40% attended/attending a UC
  - 26% attending another CA school (Stanford, Caltech, CSU)



- 33% attend schools outside CA (Yale, Columbia, Harvard, Johns Hopkins, Duke, Princeton, etc.)
- Of 141 declared majors: 96% biology, other STEM related fields

\* Formal Alumni Tracking section in Progress Reports implemented in 2015





CA Colleges (67%)

Outside CA (33%)

## Proposed SPARK Training Program Concept: 2021

#### **Objectives**

- To inspire, educate and motivate high school students to become involved in CIRM's mission of accelerating stem cell treatments to patients with unmet medical needs
- Provide summer training opportunities and broaden participation in stem cell, gene therapy and related research to high school students who represent the diversity of California's population and who might not otherwise have opportunities to take part in summer research internships due to socioeconomic constraints
- 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

## **SPARK Training Program Structure**

- A qualified Program Director based at the awardee Institution will be responsible for the management and coordination of all activities supported by the program as well as the recruitment of diverse and qualified students
- Hands on, mentored summer research at host laboratories at the awardee's institution (non-profit research universities or institutes)



Preparatory Courses/ Workshops



Internship



Outreach and Engagement



Annual SPARK Poster Day

#### SPARK Concept: Updates and Improvements

#### **Building off the Established SPARK Platform:**

- Expand the allowable scope of research projects beyond stem cell science to include gene therapy and related regenerative medicine research in accordance with Proposition 14
- Allow institutions to partner with another organization to increase availability and diversity of host laboratories
- Provide formal requirements to maintain and strengthen focus on Diversity, Equity and Inclusion
- Require an Alumni Tracking Plan to enable annual assessment and reporting on college acceptance, choice of major, and positions taken by program alumni
- Change budget structure and increase award amounts to reflect present economy, and to afford more flexibility for recruiting and appointing a diverse cohort that includes socio-economically disadvantaged students

## SPARK Concept: Budget Updates and Rationale

Budget Categories	2011 RFA	2015 RFA	2021 RFA Proposal
Trainee Stipends	\$2,500	\$2,500	\$4,500*
Mentor Stipends	\$1,000	\$1,000	\$0**
Research Related Funds	\$500	\$500	\$0**
Travel to annual conference	\$750	\$750	\$750
Direct Costs to Trainee	\$4,750	\$4,750	\$5,250
Program Administration	\$2,500	\$2,500	\$4,000 (allowable costs include mentor stipends & research related funds)
Indirect Costs	\$725 (10%)	\$725 (10%)	\$925 (10%)
Total Cost per Trainee	\$7,975	\$7,975	\$10,175

\* Recalibrated to align with state minimum wage/8 weeks

\*\* Allowances redirected to the Program Administrative budget to allow greater flexibility and more judicious use of funds to benefit program



#### SPARK Concept: Budget Rationale- continued

- Raising stipend cap to a minimum wage equivalent (\$4500/8 weeks) will increase program director's ability to recruit and maintain students from diverse and socio-economically disadvantaged backgrounds
  - Comparable pay to an alternative summer job
  - CIRM's Training director experience and external studies (e.g. Jensen et al, Bioscience. Apr 2021) suggest adequate pay is critical for reducing barriers to participation for underrepresented minorities
- Redirecting trainee stipends/research funds to program administration allows the Program Directors to more flexibly apply those funds (\$4000/student) towards achieving program objectives
  - Option remains to provide mentor/research funds to defray host lab costs, when helpful
  - Can support other administrative activities or roles (mentor coordinator, etc.)

# SPARK Program: Summary of Budget

	SPARK 2021 Concept
CIRM Investment (10 awards)	\$5.1M
Total Award Amount	\$509K
# of trainees*	500
Appointment duration	1 Summer/Year
Direct Student Costs (stipend & travel to annual conference)	\$5,250
Program Admin/Overhead Costs	\$4,925
Total Cost per Student per Year	\$10,175
Total Award Increase since last CIRM RFA	22% since 2015 RFA

\* Assumes 10 trainees/summer. Grant payments are disbursed upon trainee appointment



## **Requested Action**

CIRM requests the Board approve the proposed SPARK Training Program concept with an allocation of \$5.1M to support:

- Up to 10 SPARK awards, each with up to a 5-year duration
- 500 trainees
- \$509,000 per award