Research Training II

I. PURPOSE

The CIRM Research Training Program II will provide support for the training and development of scientists in California, “CIRM Scholars”, at the predoctoral, postdoctoral, and clinical fellow levels, who will contribute to the expansion of stem cell research. The growth of stem cell research in California will require the scientific training of individuals at all levels to create a cadre of scientists with the knowledge and skill to lead effective research programs.

II. PROGRAM OBJECTIVES

CIRM expects to support up to 18 training programs across California. These programs will foster an active interest in stem cell research that is founded in knowledge of human disease, as well a thorough and critical understanding of fundamental biology. Not every institution will be able to offer training at all levels; moreover, the number of faculty, students and fellows engaged in stem cell research differs widely among institutions. Consequently, CIRM is offering research training grants at several levels of support to accommodate different institutional capabilities. CIRM expects that competitive applicant institutions will have a proven track record in supporting the training of scientists in biomedical research at the pre-doctoral, post-doctoral, and/or clinical fellow levels.

An important overall aim of the training program is to provide research training for a wide variety of trainees from scientifically diverse backgrounds, including relevant fields of biology (e.g., developmental biology, cell biology, neurobiology, molecular biology), bioengineering, and clinical training programs (e.g., medicine, surgery, neurology, cardiology). CIRM specifically wishes to promote interactions among trainees from different fields, especially those trained in basic science/engineering and clinical medicine. To achieve this goal, each institution is expected to offer a single integrated program of training that is appropriate for the educational levels of its trainees and the expertise of its faculty.

Because of the diversity of California’s population, CIRM is particularly interested in training a diverse pool of investigators. CIRM encourages institutions to make special efforts, consistent with the law, to recruit and retain individuals from many backgrounds, including underrepresented minorities, as trainees and mentors.

III. AWARD INFORMATION

A. Program Categories and Funds Available

Under this RFA, CIRM intends to commit up to $48 million to support three categories of training program awards:

Type I - Comprehensive training programs: Comprehensive programs offer training at all three educational levels: pre- doctoral, post-doctoral and clinical fellow. Each grant may support up to 16 trainees, with a total (direct and indirect costs) budget of up to $1.31 million per year. Type I grantees may include universities with medical schools that have large research programs in stem cell research and well-established programs of graduate training.

Type II - Intermediate training programs: Intermediate programs offer training at two of the three levels of education (e.g., pre-doctoral and post-doctoral; post-doctoral and clinical fellow; or pre-doctoral and clinical fellow). Each grant may support up to 10 trainees, with a total (direct and indirect costs) budget of up to $840,000 per year. Type II grantees may include institutions that have less extensive stem cell research programs, but offer strong training opportunities.

Type III - Specialized training programs: Specialized programs offer training at one or two levels of education. Each grant may support up to 6 trainees, with a total (direct and indirect costs) budget of up to $525,000 per year. Grantees may include institutions with emerging stem cell research programs.

B. Program Requirements

All training programs must offer at least one course in stem cell biology and its application to health and disease, and a course in the social, legal and ethical implications of stem cell research. Participation in both courses is required for all trainees. Moreover, all programs must offer opportunities for laboratory work under the direction of a mentor in stem cell biology or clinical training that is closely related to stem cell research.

The training period for any individual trainee will be limited to 36 months and should not be less than 12 consecutive months (clinical trainees may request prior approval for a shorter training period, but only with written justification). All trainee appointments must be made within the first six months of each award year (budget period) unless prior approval to do otherwise is granted by CIRM. Program Directors of CIRM training grants are encouraged to appoint trainees who are committed to a career in research, particularly stem cell research and related areas, and plan to remain in the CIRM training program for a minimum of 2 years. The CIRM training grant is not intended to provide opportunities to participate in short-term research assignments during the summer or other "off-quarter" periods.

To qualify for appointment, predoctoral trainees must be enrolled in a doctoral degree program in a basic science program or medically-related professional program such as medicine, dentistry, or veterinary medicine. Post-doctoral trainees must have earned a Ph.D., M.D., or equivalent degree. Clinical fellows must have received a professional doctoral degree in a medically-related field and should be training in a residency or immediate post-residency program.

In addition to these requirements, training program grantees are subject to the policies and conditions outlined in the CIRM Grants Administration Policy for Non-Profit and Academic Institutions.

C. Allowable Costs

Under this RFA, allowable costs include the following:

1. Trainee-Related Costs:

Stipends

Applicants may request stipend support for trainees within the following ranges:

Trainee Type	Annual Stipend Amount per Trainee
Predoctoral Students	$25,000 to $28,000
Postdoctoral Trainees	$36,000 to $54,000
Clinical Fellows	$65,000 to $77,000

Research and Travel Allowance

Applicants may request an annual allowance for trainees for research training-related expenses such as books and laboratory supplies and for trainee travel to scientific conferences or workshops. The annual allowance per trainee is limited to $5,000 for predoctoral students and to $10,000 for postdoctoral and clinical trainees.

Tuition and Fees for Student Trainees

"Tuition and fees" means costs charged by the applicant institution for the enrollment and instruction of a student and may include costs of health insurance for a student trainee. Tuition and Fees may only be claimed for trainees who are enrolled in an

accredited doctoral degree program. Grantees may request for each trainee up to 100 percent of the first $3,000 incurred for Tuition and Fees and 60 percent of expenses in this category incurred thereafter up to a maximum of $16,000. CIRM does not cover Tuition and Fees that are otherwise subsidized by the applicant institution or that are not an integral part of the student's training in stem cell research.

Health Insurance for Postdoctoral and Clinical Trainees

If a postdoctoral or clinical trainee's health insurance is not otherwise covered by the applicant institution, the applicant may request up to 100 percent of basic health insurance costs for the trainee and immediate family (if applicable). Health insurance may include coverage for costs such as vision and/or dental care if consistent with organizational policy.

2. Program Administration Costs

Applicants may request funds for administrative costs of the training program that include administrative support salaries, seminar speakers, outside speakers for courses, audio-visual equipment or supplies, and costs of developing or delivering new courses. Up to 25% of the amount awarded in this category (i.e., program administration funds) may be used for the Program Director's salary.

3. Indirect Costs

Indirect costs will be limited to 10 percent of allowable direct research funding costs awarded by CIRM, exclusive of the costs of tuition and fees.

IV. ELIGIBILITY INFORMATION

CIRM will accept only one application per institution. Applications will only be accepted from institutions that have submitted a Letter of Intent (LOI) that is accepted by CIRM.

A. Institutional Eligibility

CIRM Research Training Program grants will be available to public colleges and universities and to non-profit academic and research institutions in California. Non-profit means either: (1) a governmental entity of the state of California; or (2) a legal entity that is tax exempt under Internal Revenue Code section 501(c)(3) and California Revenue and Taxation Code section 23701d. Institutions wishing to include training of pre-doctoral students must have an accredited graduate program in biology or biomedical sciences.

B. Program Director (PD) Eligibility

Program Directors must have a Ph.D., M.D., or equivalent doctoral degree and hold, at a minimum, a faculty-level position at the applicant institution. This individual will have primary responsibility for all programmatic and administrative aspects of the training grant, including adherence to budgetary, policy, and reporting requirements as outlined in this RFA and in the CIRM Grants Administration Policy for Academic and Non-Profit Institutions.

V. REVIEW CRITERIA

Training Grant Applications will be evaluated by the following criteria:

1. Overall quality of the proposed training program

    1. How well the program is designed and how suitable the scope of training is to prepare trainees for a career in stem cell research.

2. The quality of the training environment and the resources that will be available for training.

1. 3. The quality of proposed coursework, including the qualifications of the proposed instructors.

4. The quality of the proposed training activities, including their overall value in advancing the knowledge and skills of the trainees.

2. Qualifications of the program leadership

1. The scientific, organizational and leadership qualifications of the Program Director that will contribute to successful oversight of the training program.

1. 2. The quality of plans for scientific and administrative oversight and their suitability for achieving the program objectives.

1. 3. The qualifications of additional proposed members of the program leadership (e.g., advisory committee members, coordinators) to manage or oversee the program.

3. Research and training strength of the proposed mentors

4. The qualifications of proposed mentors to train predoctoral, postdoctoral, or clinical trainees in stem cell research.

5. The research expertise and training experience of the mentors.

4. Quality and diversity of existing training programs

6. The quality and scope of existing training programs at the applicant institution.

7. Outcomes and measures of success for existing programs, including scientific publications, recruitment of a diverse pool of trainees, and placement of trainees.

1. 8. The commitment of the applicant institution to the training of scientists in stem cell research. The extent to which the institution engages in outreach efforts to neighboring institutions through mentoring and recruitment.

5. Strength of stem cell research at the institution

9. The strength of stem cell research at the applicant institution and its appropriateness for the scope of training proposed.

10. The commitment of the institution to maintain and develop stem cell research.

VI. APPLICATION PROCEDURE

A. Letter of Intent

Applicant institutions must submit a letter of intent (LOI) using the LOI template provided athttp://www.cirm.ca.gov/grants/default.asp. The letter should describe concisely the type, scope, and overall goals of the proposed training program. Completed LOIs should be sent as an email attachment to LOITrainingGrantProgram@cirm.ca.gov, and must be received by CIRM no later than **5:00PM (PDT) on July 31, 2008. No exceptions will be made.**Letters of intent are non-binding, but applications will not be accepted if an LOI has not been received by CIRM by the stated LOI deadline.

B. Application Components

Application forms will be available on the CIRM website at https://www.cirm.ca.gov/grants/default.asp. The application for the CIRM Research Training Program consists of five parts:

Part A: Application Information Form (Adobe PDF template provided at https://www.cirm.ca.gov/grants/default.asp.)

Part A includes the following sections: Abstract, Public Abstract, Statement of Benefit to California, Key Personnel, and Budget.

Part B: Training Grant Proposal (MS Word template provided at https://www.cirm.ca.gov/grants/default.asp.)

Part B includes the following sections: Program Design, Program Leadership and Administration, Stem Cell Research Expertise, Institutional Resources, and Experience and Commitment to Research Training.

Part C: List of Mentors (MS Excel template provided at https://www.cirm.ca.gov/grants/default.asp.)

Part D: Biographical Sketches for Program Director and Mentors (MS Word template provided at https://www.cirm.ca.gov/grants/default.asp.)

Part E: Letters of Commitment (Optional, no template provided)

C. Application Content

The application for CIRM Research Training Program includes the following sections:

Part A:

1. *Abstract (up to 3000 characters)*

State the overall scope and objectives of the proposed training program including the level(s) of training, numbers of trainees, training activities, and range of research opportunities available. Include a description of multidisciplinary and/or collaborative activities if such will be offered.

2. *Public Abstract (up to 3000 characters)*

Please include an abstract for public viewing that does not include proprietary or confidential information or information that could identify the applicant institution.

3. *Statement of Benefit to California (up to 3000 characters)*

Describe in a few sentences how the proposed training program will benefit the state of California and its citizens. This Statement of Benefit will become public information; therefore, do not include proprietary or confidential information or information that could identify the candidate and applicant institution.

4. *Key Personnel*

List all key personnel and their roles on the project. Key personnel are defined as individuals who contribute to the scientific development or execution of the project in a substantive, measurable way, whether or not they receive salaries or compensation under the grant. For the CIRM Research Training Program, key personnel will include the Program Director and may also include individuals who will assist the Program Director with administration and oversight of the training program. Mentors should not be included as key personnel. A minimum of one percent effort is required for each key person. For each key person listed, provide a 2 page biographical sketch using the template provided (see Part D). The sketch should highlight experience and/or special skills related to the proposal.

5. *Budget*

Provide all budget information requested in the budget section of the application form. Allowable costs for training grants are detailed in the CIRM Grants Administration Policy for Academic and Non-Profit Organizations (GAP). Direct Facilities Costs are not applicable to CIRM Training Grants.

Part B:

6. *Program Design (up to 3 pages in Part B)*

Describe the specific focus and purpose of the training program including the levels of proposed trainees. Describe the formal training to be offered as part of the program including the content and design of required courses and optional courses. Describe additional training activities such as seminar series relevant to stem cell research, scientific retreats, journal clubs and field trips.

7. *Program Leadership and Administration (up to 2 pages in Part B)*

Describe the plans for the scientific and administrative leadership and oversight of the program including the specific contributions of the Program Director and additional administrative personnel. Describe the training, research, and leadership experience of the Program Director as well as any key members of the leadership team (e.g., steering committee members, program coordinator). Describe how the leadership will assess the progress of trainees and the effectiveness of the program.

8. *Stem Cell Research Expertise (up to 1 page in part B)*

Briefly highlight the strengths of the institution's stem cell research. Describe how these strengths will contribute to the training of stem cell scientists at each of the trainee levels to be offered under the CIRM Research Training Program.

9. *Institutional Resources (up to 1 page in Part B)*

Provide a description of the facilities and environment in which the training activities will be done, and the resources available for training in stem cell research. Discuss ways in which the program will benefit from unique features of the scientific environment or employ useful collaborative arrangements where applicable. Describe the accessibility of these resources to trainees. Describe the institutional support for the training program.

10. *Experience and Commitment to Research Training (up to 2 pages in Part B)*

Discuss the institution's track record and commitment to the training of basic and/or clinical scientists particularly at the training levels to be offered. Describe the success and outcomes of existing training programs. Describe the level(s) of training offered in existing programs and the success in recruiting a diverse group of trainees, providing mentorship opportunities, and promoting the development of scientific careers. Discuss how the institution and faculty will extend their commitment to training through outreach and mentoring activities including the CIRM Bridges to Stem Cell Research Program (https://www.cirm.ca.gov/grants/default.asp).

Part C:

11. *List of Mentors*

Provide a list of the faculty-level investigators who will serve as possible mentors to the trainees. For each named mentor provide a 2 page biographical sketch that highlights the mentor's stem cell research expertise and training experience. Please use the Biosketch template provided (see Part D).

Part D:

12. *Biographical Sketches for Key Personnel and Mentors*

Each scientific key person listed in Part A and each named mentor in Part C should provide a 2-page biographical sketch using the available template.

Part E:

13. *Letters of Commitment (optional)*

Applicants are encouraged to include any letters that describe the commitment of collaborators that may be proposed for the training program.

VII. SUBMITTING AN APPLICATION

Applications will only be accepted from institutions that have submitted a Letter of Intent (LOI) that was accepted by CIRM.

Applications for the CIRM Research Training Program must be submitted in **both** hardcopy and electronic formats and received by CIRM no later than **5:00PM (PT) on September 16, 2008. No exceptions will be made.** Applicants must use the appropriate CIRM templates to complete Parts A, B, C and D. Application forms will be available on the CIRM website at https://www.cirm.ca.gov/grants/default.asp.

Send electronic copies of all parts of the application as attachments in a single email to TrainingGrantProgram@cirm.ca.gov.

In addition to the electronic submittal, submit an original hardcopy (plus 5 additional hardcopies) of the application signed by the Program Director and the institution's Authorized Organizational Official to:

CIRM Research Training Program Application California Institute for Regenerative Medicine
210 King Street

San Francisco, CA 94107

The original application plus the five hardcopies must be received by CIRM no later than

5:00PM (PT) on September 16, 2008. No exceptions will be made.

VIII. SCHEDULE OF RECEIPT AND ANTICIPATED REVIEW

Receipt of Letters of Intent:	**5:00PM (PDT) on July 31, 2008**
Receipt of Applications:	**5:00PM (PDT) on September 16, 2008**
Review of Applications by Grants Working Group	**November, 2008**
(GWG):	
Review and Approval by ICOC:	**Early 2009**
Earliest Funding of Awards:	**Spring, 2009**

IX. REVIEW AND AWARD PROCESS

CIRM Research Training Program II applications will be reviewed by the CIRM Scientific and Medical Research Funding Working Group (the Grants Working Group, or GWG). The GWG consists of fifteen basic and clinical scientists from institutions outside California, seven patient advocates who are members of the Independent Citizen's Oversight Committee (ICOC), and the Chair of the ICOC.

The membership of the GWG can be viewed on the CIRM website. The ICOC was established by the California Stem Cell Research and Cures Act (Proposition 71) to oversee CIRM and makes all final funding decisions. The composition of the ICOC can be viewed on the website.

Fifteen scientists on the GWG will review the applications and rate them according to the criteria outlined in section V. The full membership of the GWG will then review the entire portfolio of applications, taking into consideration any programmatic concerns such as the perspective of patient advocates. The GWG's final recommendations for funding will then be forwarded to the ICOC, which will make all final funding decisions.

X. CONTACTS:

For information about this RFA and the review process:

Gilberto R Sambrano, Ph.D.

Senior Officer to the Grants Working Group California Institute for Regenerative Medicine 210 King Street

San Francisco, CA 94107 Email: gsambrano@cirm.ca.gov Phone: (415) 396-9103

FAX: (415) 396-9141

For technical assistance with electronic forms:

Ed Dorrington

Director of Grants Management Systems California Institute for Regenerative Medicine 210 King Street

San Francisco, CA 94107 Email: edorrington@cirm.ca.gov Phone: (415) 396-9108

FAX: (415) 396-9141

XI. OTHER REQUIREMENTS

A. CIRM Grants Administration Policy:

CIRM's Grants Administration Policy (GAP) for Academic and Non-profit Institutions serves as the standard terms and conditions of grant awards issued by CIRM except as noted herein. All research conducted under this award must comply with the stated policy, which can be found on the CIRM website at http://www. cirm.ca.gov/reg/pdf/GAP_policy_stmt.pdf. Funding from year to year will depend on scientific progress achieved.

B. Evaluation of the Program:

In fulfilling our commitment to the State of California, CIRM may request information essential to an assessment of the effectiveness of this program. Accordingly, recipients are hereby notified that they may be contacted after the completion of this award for periodic updates on various aspects of their employment history, publications, support from research grants or contracts, honors and awards, professional activities, and other information helpful in evaluating the impact of the program.

C. Human Stem Cell Research Regulations:

CIRM has adopted medical and ethical standards for human stem cell research. All research conducted under this award will be expected to comply with these standards which can be viewed on our regulations page. While these regulations prohibit donors of gametes, embryos, somatic cells or human tissue from receiving valuable consideration for their donation, they do allow for reimbursement for permissible expenses as determined by an IRB. "Permissible Expenses" means necessary and reasonable costs directly incurred as a result of donation participation in research activities and may include costs such as those associated with travel, housing, child care, medical care, health insurance and actual lost wages.

D. Intellectual Property Policy for Non-profit Organizations:

CIRM has adopted policies that govern intellectual property resulting from CIRM-funded research that also govern this award. This policy can be viewed on our regulations page.

ICOC approval:
Jan 30, 2009