

*The state stem cell agency*

# President's Report

***Alan O. Trounson***




***ICOC Meeting -- February 2010***

***Agenda Item #5***

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# The California Stem Cell Initiative: Persuasion, Politics and Public Science

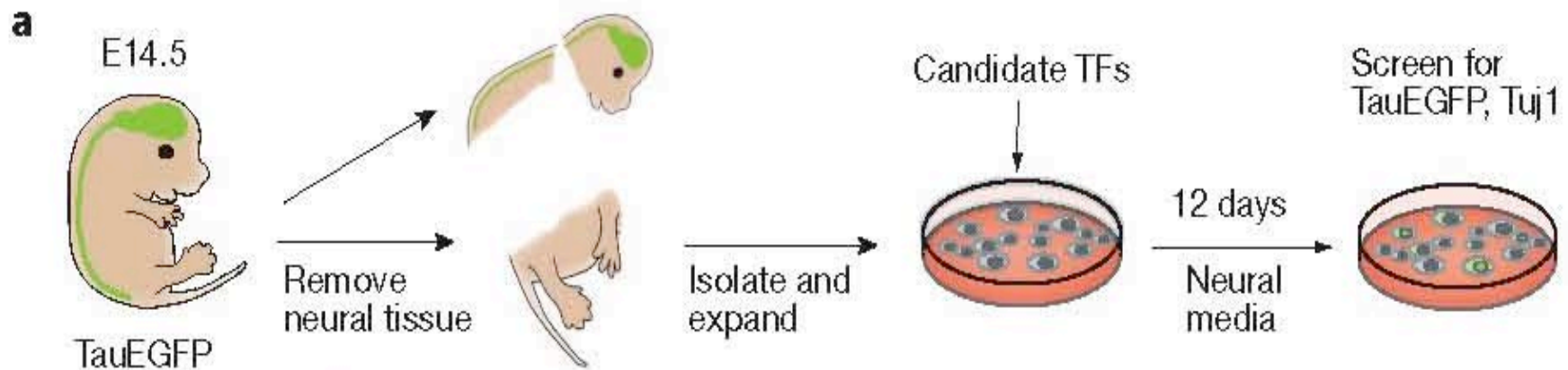
J W Adelson & J K Weinberg, *APHA* Jan 2010

- “The shift of a major focus for stem cell research to California will have a significant effect into the future on the geographic distribution of biological science and biotechnology infrastructure in the United States; on the location of university, biotechnology, and pharmaceutical research and start up firms; and on the investment of venture capital. Evidence for this is the \$300 million the CIRM has invested in stem cell facilities, already leveraged to more than \$1 billion in linked donations.”
- “California is host to a steadily growing cadre of world-class scientists, dedicated state-of-the-art facilities, training programs, and support programs... leading from basic stem cell research findings in the laboratory to treatments  and cures.”  

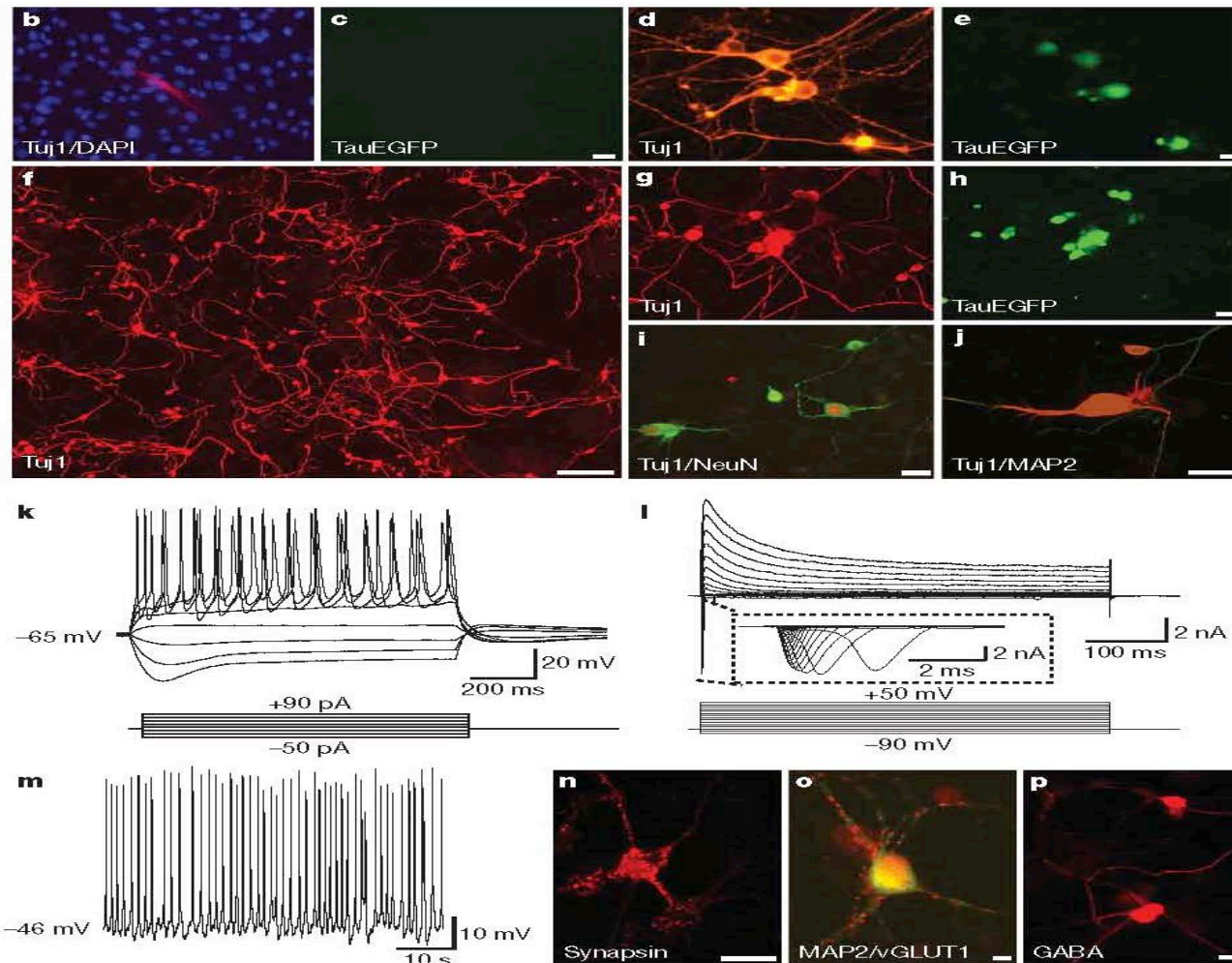
# Direct Conversion of Fibroblasts to Functional Neurons by Defined Factors

Vierbuchen, Ostermeier, Pang et al.; Marius Wernig's Lab  
Stanford University. *Nature* 27<sup>th</sup> Jan. 2010

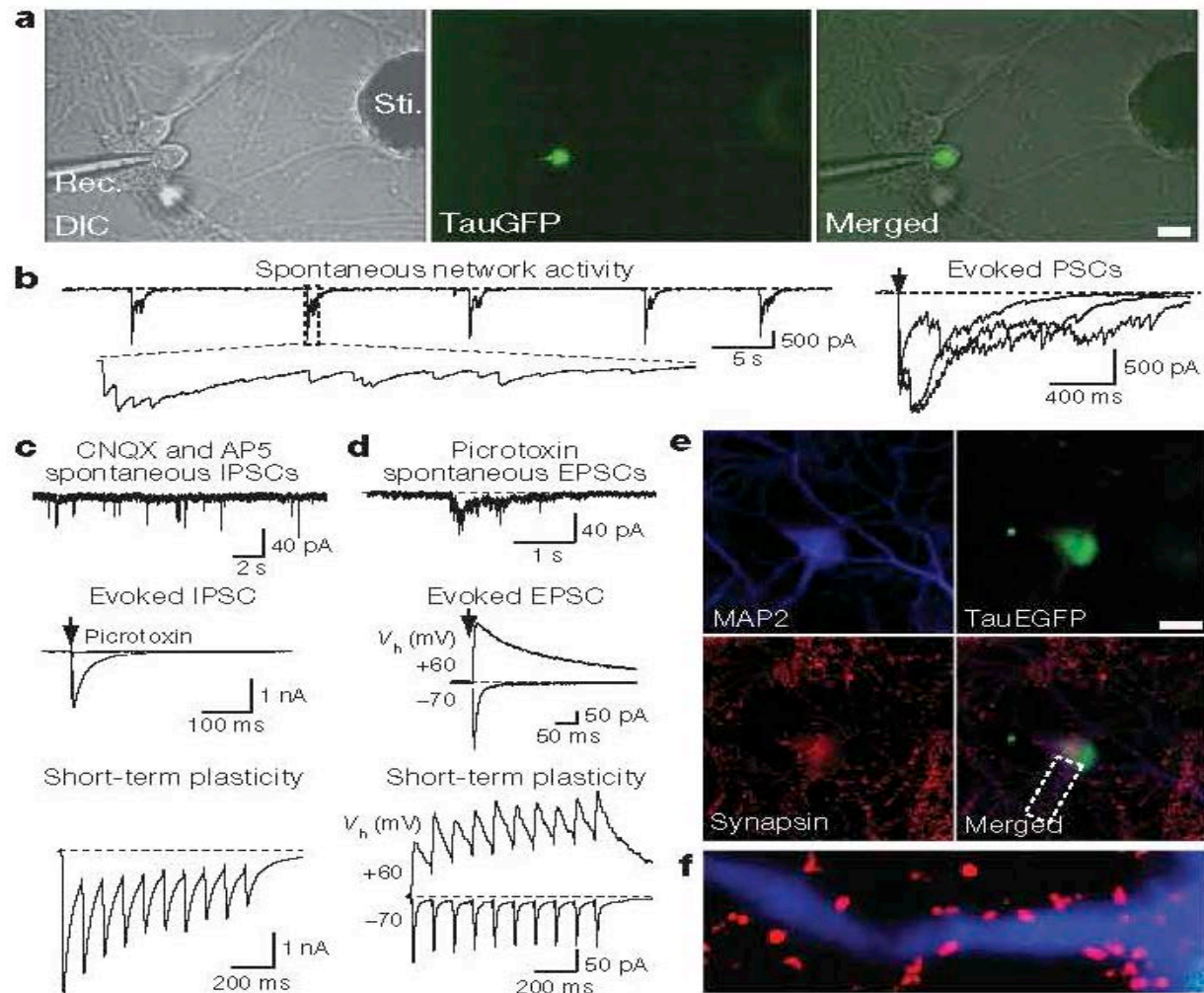
- Hypothesized that a panel transcription factors would convert skin cells directly to neurons (iNs)
- Pool of lentiviruses containing 19 genes critical for neurons used to infect skin fibroblasts from TauEGFP KI mice (fluorescent green neurone marker)



- The gene *Asd1* (*Mash1*) could induce green Tuj1+ cells
- The genes *Brn2*, *Brn4* (*Pou3/4*), *Mytl1*, *Zic1* and *Olig2* potentiated the neuron forming property of *Asd1*
- *Asd1*, *Brn2* and *Mytl1* were sufficient to efficiently convert fibroblasts to functional neurons



- The efficiency of conversion to neurons was 1.8% from MEF and 7.8% from TTF iNs
- iNs have normal membrane properties and form functional synapses in vitro



# Implications

- Possible that only one gene is really necessary to activate the conversion of fibroblasts to neurons
- Why isn't this a mechanism for neural regeneration in vivo?
- Can this direct conversion be used clinically? – cell numbers may be inadequate
- Can other tissues be formed in a more direct conversion using other transcription panels? – note Doug Melton's induction of insulin production using 3 transcription factor conversion of endocrine cells in vivo.



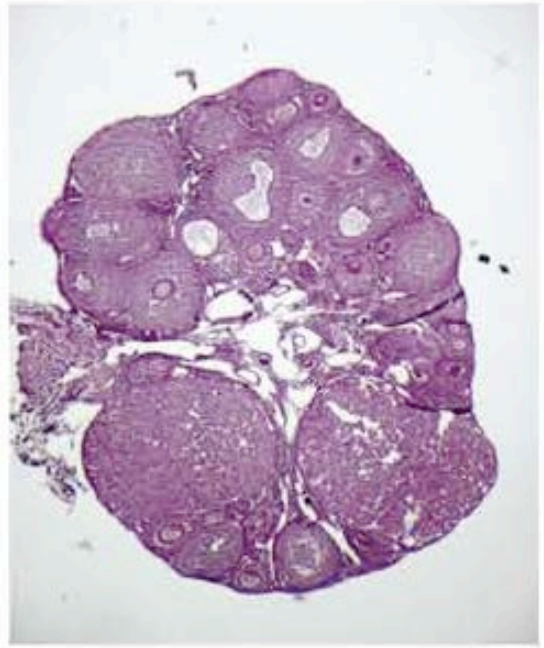
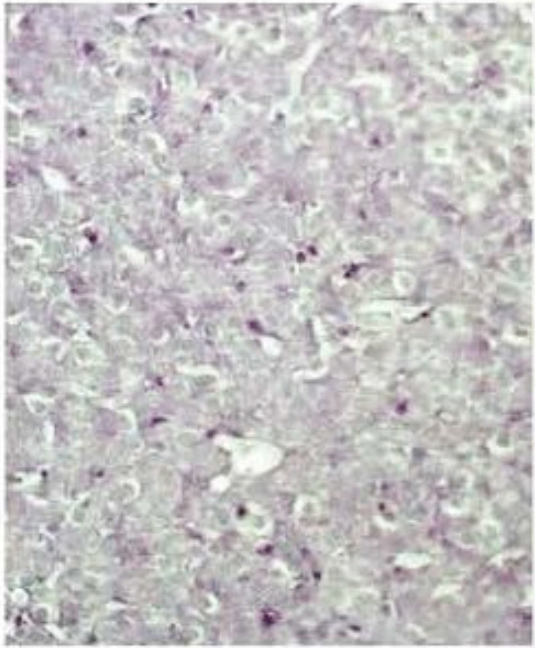
# Somatic Sex Reprogramming of Adult Ovaries to Testes by FOXL2 Ablation Uhlentaut et al., EMBL Germany, MRC Natl Instit Med Res, Baylor Coll Med, Uni Cologne- M Treier

*Cell 139, 1130, Dec 2009*

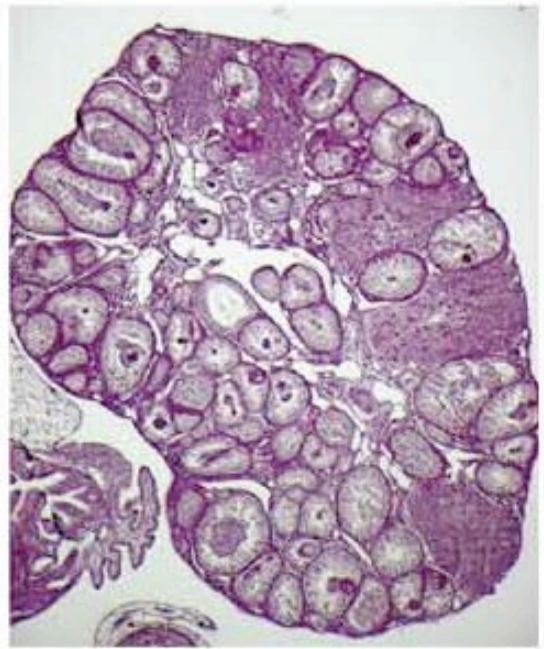
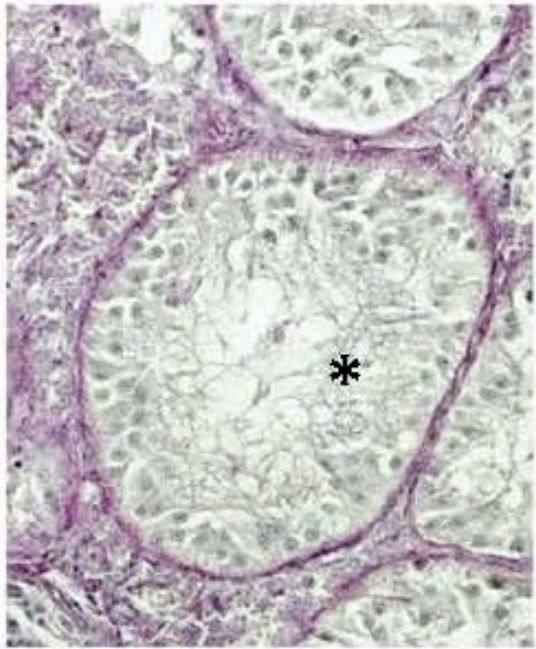
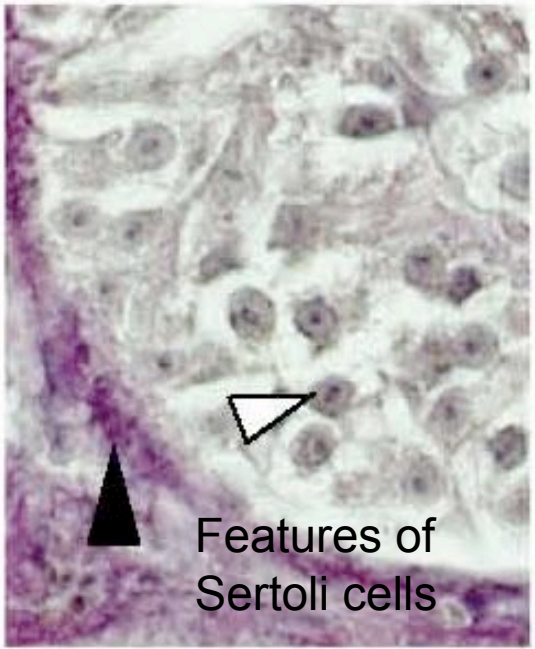


- In the mouse, the forkhead transcription factor FOXL2, is required to prevent transdifferentiation of an adult ovary to a testis
- Inducible deletion of *foxl2* in adult ovarian follicles leads to immediate upregulation of testis-specific genes
- Also reprogramming of follicle granulosa and theca cells into Sertoli-like and Leydig-like cell types with testosterone levels comparable to normal XY males



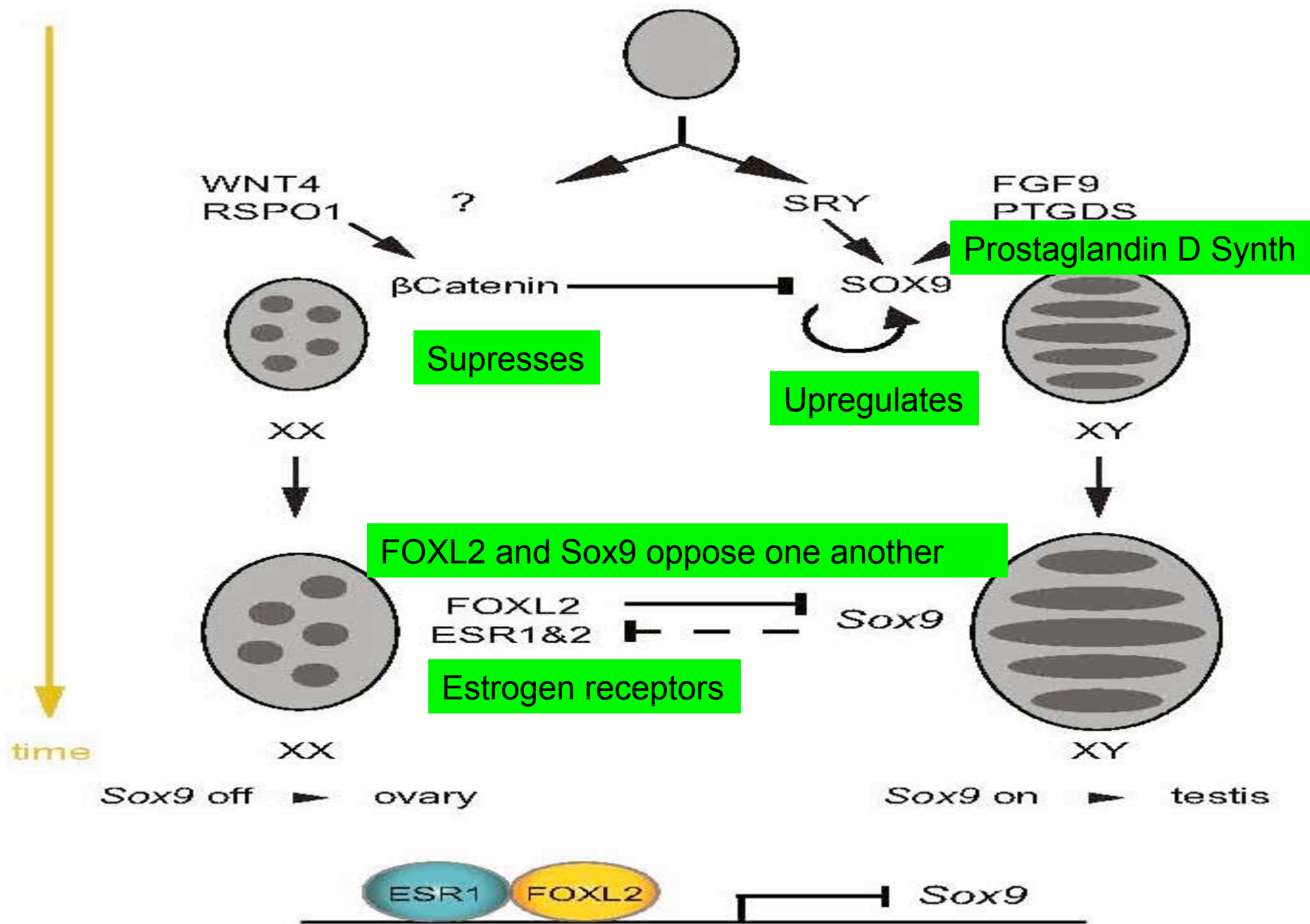


XX *Fox12<sup>f/f</sup>*



R26CreERT2;XX *Fox12<sup>f/f</sup>*





# Opposing microRNA families regulate renewal in mouse embryonic stem cells. Melton, Judson & Robert Blelloch UCSF *Nature* Jan 6 2010

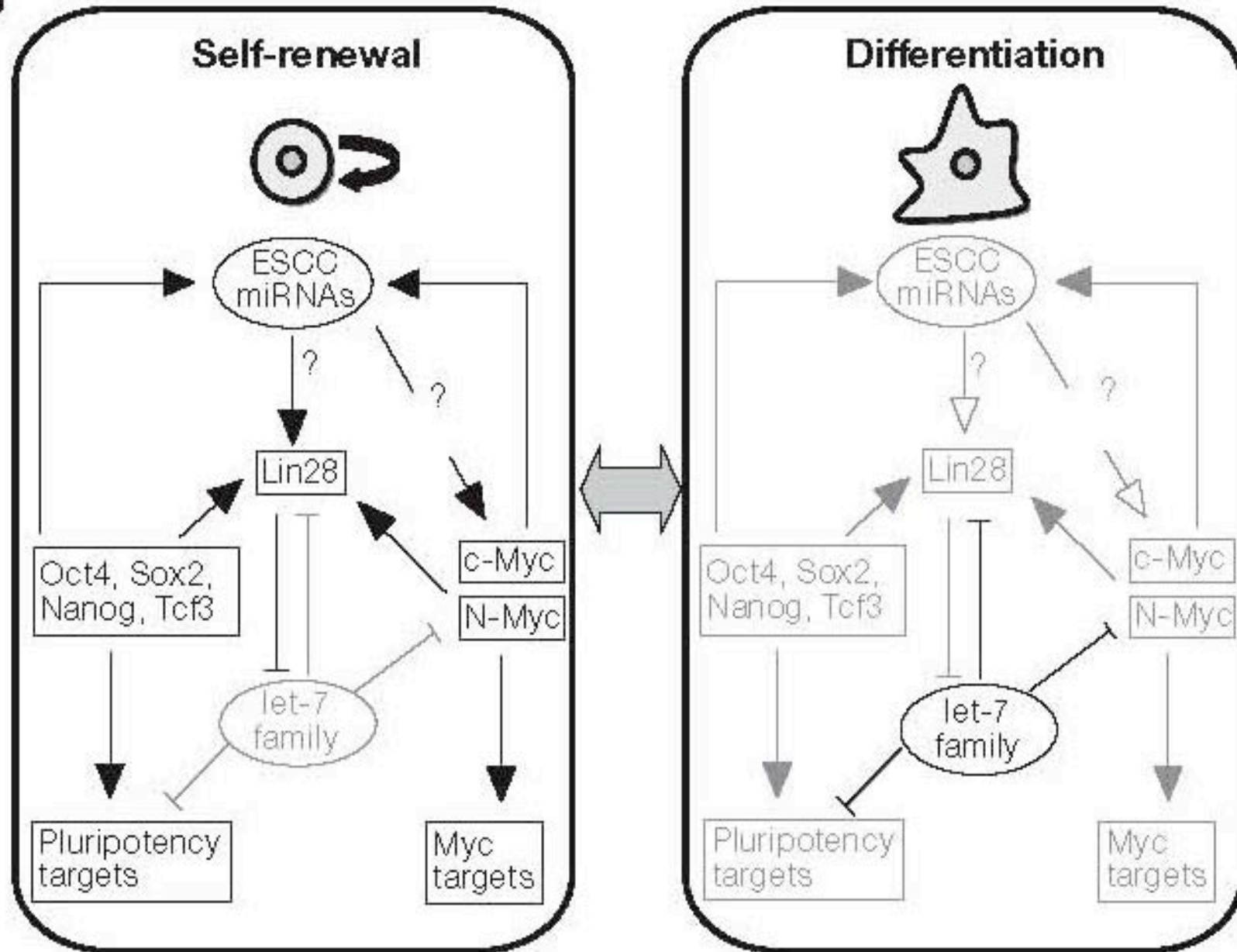


- In the absence DGCR8 – protein required for miRNA synthesis – mouse ES cells are unable to silence self renewal.
- Let-7 miRNA can suppress self renewal in the absence of DGCR8
- Showed that Let-7 inhibits, whereas ESCC (ES cell cycle regulating miRNA) indirectly activate numerous self-renewal genes.
- Inhibition of Let-7 family genes promotes dedifferentiation to iPS cells



# Toggle-Switching

b

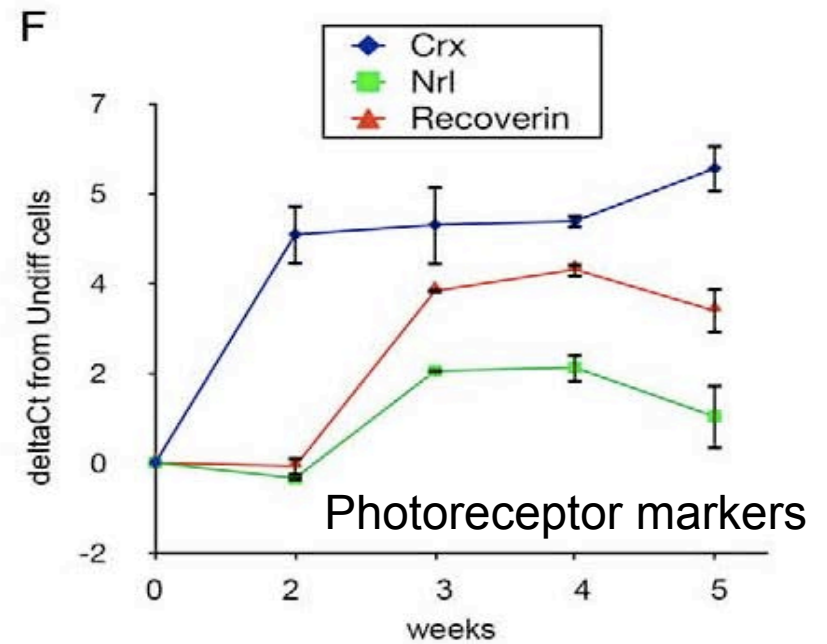
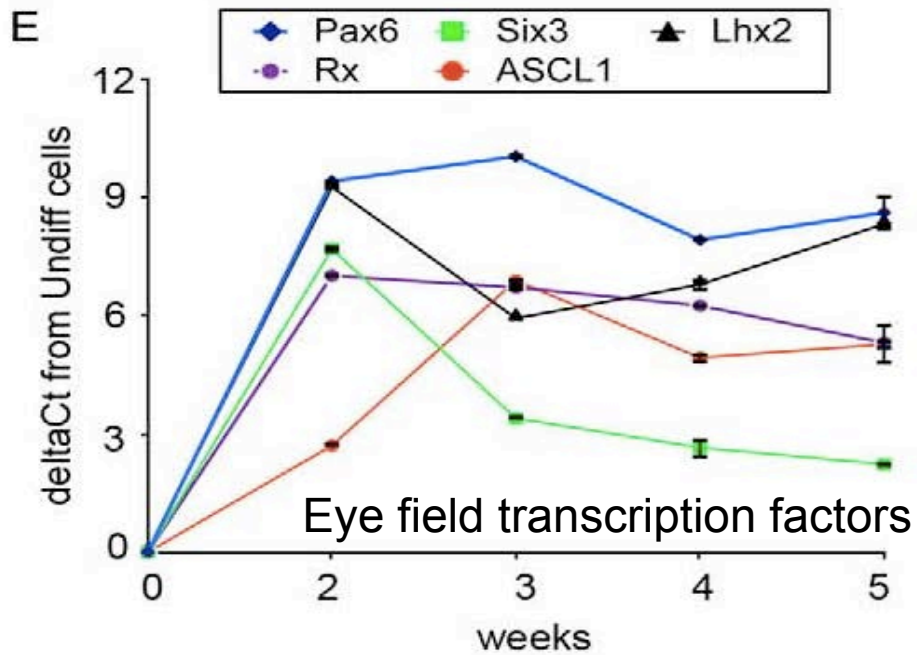
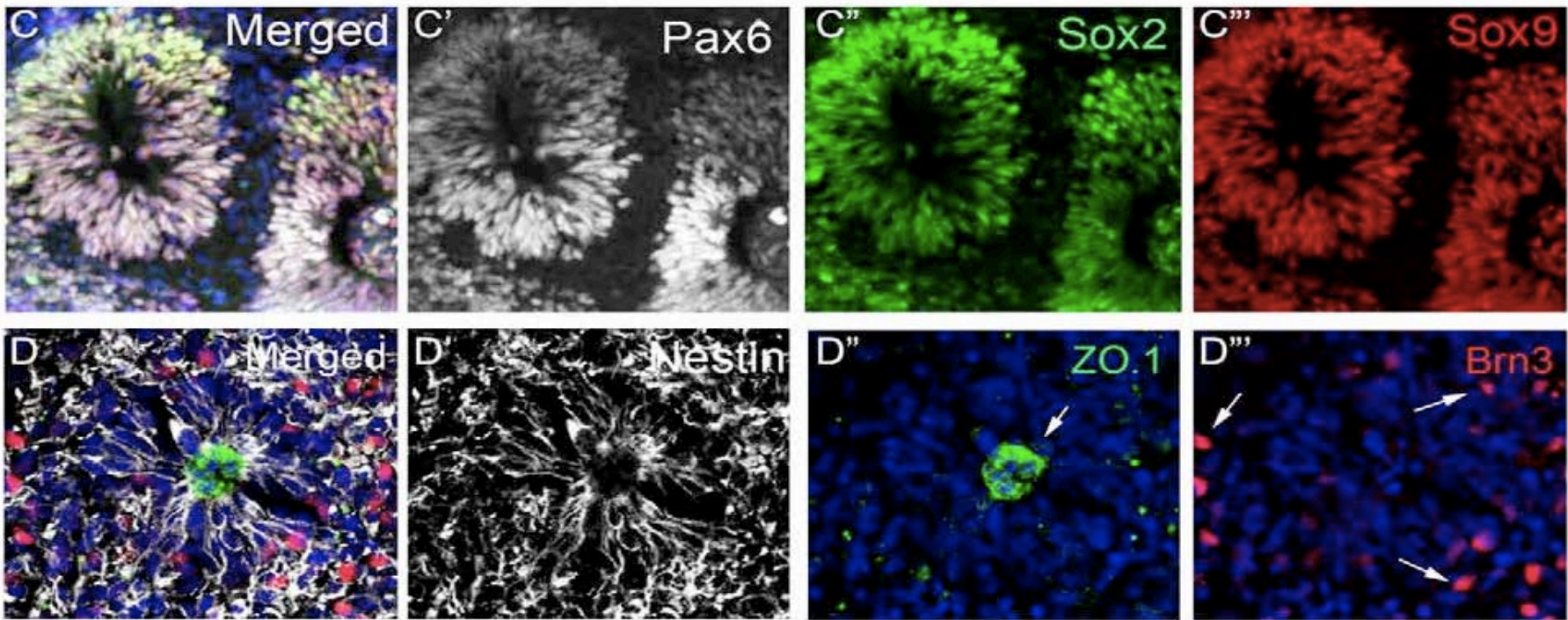


# Generation purification and transplantation of photoreceptors derived from human induced pluripotent stem cells. Lamba et al. Uni Washington Seattle. PLoS one Jan 20 2010



- Made iPSC from human fibroblasts
- Differentiated iPSCs to retinal progenitors – competent to generate photoreceptors
- Purified photoreceptor fraction by FACS )GFP
- On transplantation integrated in mouse retina expressing photoreceptor markers





# President's Priorities



- VP R&D Search
- Grant issues
  - Californian science leadership on Pre-application processes
  - Data gathering for review of extraordinary petitions
  - Submission of new data prior to review
  - Aggregated percent effort of PIs
  - Industry presence on Grants Working Group
  - Loans and company issues with CIRRM regulations
- International agreements and project monitoring
- Patent issues



# President's Priorities

- Developing networks between US science and industry
- Continued dialogue with industry and FDA on enhancing success of the stem cell clinical pipeline
- CIRM 2010 External Review
- CIRM economic stimulus issues
- CIRM Development Portfolio Review – Dr Olson to present to ICOC April
- Opportunities for pluripotential stem cell clinical trials
- Regulatory pathway issues for stem cell therapies
- CIRM Workshops

# Upcoming Grant Reviews



- **Basic Biology II**
  - **Invited Applications – 57**
  - **Application Deadline – Dec 8, 2009**
  - **GWG Review – February 22-23, 2010**
  - **ICOC – April 28-29, 2010**





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# Upcoming RFAs

- **Stem Cell Transplantation Immunology**
  - Review – April 8-9, 2010
  - ICOC – June 22-23, 2010
- **Research Leadership Awards**
  - First application deadline – Feb 18, 2010
  - ICOC – April 28-29, 2010
- **Early Translational II**
  - Post RFA – Feb 2010
  - Receipt of pre-apps – March 18th
  - Full Grant applications – June 30<sup>th</sup>
  - Review – Sept 2010
- **Tools, Technologies & Bottlenecks**
  - Concept clearance – Feb 2010
- **Clinical**
  - Concept clearance – March 2010



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# 2010 Program of CIRM Workshops

- CIRM Diversity Workshop, Drew University, LA - Feb 26<sup>th</sup>
- CIRM Grant Writing Webinar - March 3<sup>rd</sup>
- CIRM Grantee Meeting, San Francisco - March 3-5<sup>th</sup>
- Germany/CIRM Science Collaboration, San Francisco - March 6<sup>th</sup>
- Maryland (TEDCO)/CIRM Science Collaboration, MD - March 11-12<sup>th</sup>
- CIRM Consortium/FDA Webinar – April 2010
- MRC UK/CIRM SCNT/Parthenogenesis, San Francisco - June 13-14<sup>th</sup>
- ISSCR/CIRM/ISCT – Clinical Trials Regulatory Harmonization,  
San Francisco - June 15<sup>th</sup>
- ISSCR Annual Meeting, San Francisco - June 16-19<sup>th</sup>
- China/CIRM Science Collaboration, San Francisco - June 20-21<sup>st</sup>
- Spain/CIRM Science Collaboration - Q3
- The Netherlands/CIRM Science Collaboration - Q4



# ***CIRM Workshop: The Role of CIRM in Enhancing Diversity – February 26, 2010***



***Goal: Identify how CIRM can enhance diversity in the field of Regenerative Medicine***

- Location: Charles Drew University, LA**
- Target Audience: CIRM --** To gain a greater understanding of how diversity affects, benefits, and incorporates the fulfillment of CIRM's mission and to use this knowledge as a foundation for the development of funding initiatives that support diversity in regenerative medicine
- Topics:**
  - Science and Diversity in Regenerative Medicine**
  - Attracting patients and physicians to clinical trials**



# Proposed Joint UK-CIRM *Workshop on SCNT* */Parthenogenesis*

**Workshop on human somatic cell nuclear transfer (SCNT) with UK/MRC**

**Location: San Francisco - June, 2010**

**Target audience:** CIRM – assess SCNT and parthenogenesis for SCs

**Expected attendance:** scientific leaders in non-human and human SCNT

## **Topics:**

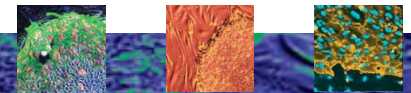
- mammalian and non-human primate SCNT – lesson learned
- animal oocyte – human nuclear xenotransfer – a viable alternative?
- human SCNT – status
- parthenogenesis – a viable road to immune compatible cell lines?
- SCNT-iPSC comparison in mouse – can iPSC replace SCNT?
- mitochondrial diseases – SCNT as a potential therapy?



# VP R&D Search Update



- **Focus of search**
  - MD or MD/Ph.D. with clinical development experience (especially pre-clinical, Phase I and II)
  - Proven track record representing development programs before the FDA
  - Excellent collaborator and facilitator
- **Candidate backgrounds are focused in the following areas:**
  - Biotech/Regenerative Medicine
  - Pharmaceutical

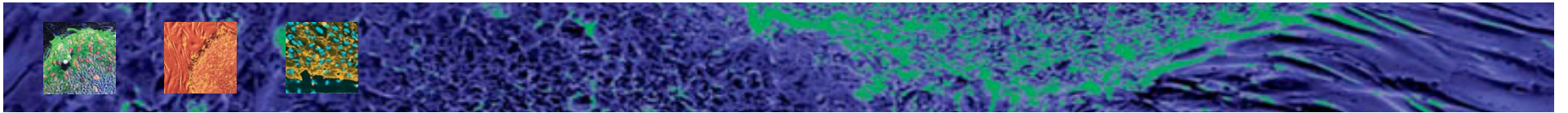


# VP R&D Search Update



- The focus is now on 6/(80) potential candidates with meetings undertaken and arranged with senior CIRM staff and some members of the Board
- Three international candidates
- One interstate candidate
- Two Californian candidates





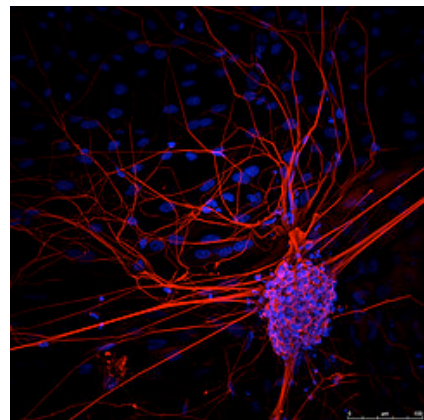
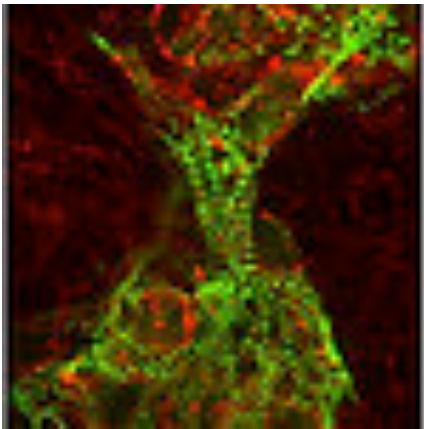
*The state stem cell agency*

# Communications

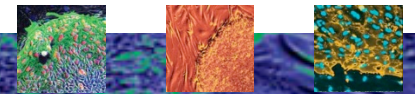
***Don Gibbons***  
***Chief Communications Officer***



# Communications Update



- Working with traditional media
- Bypass what's left of traditional media
- Going face-to-face
  - Slide deck for the board
  - Slide deck for patient groups
  - Town forums
  - Stem Cell Awareness Day
- Grantee communications workshop
- Annual report
- High school curriculum





# Los Angeles Times

Date: Sunday, January 10, 2010  
 Location: LOS ANGELES, CA  
 Circulation (DMA): 1,107,074 (2)  
 Type (Frequency): Newspaper (S)  
 Page: A1,A14  
 Keyword: City of Hope

## Windfall may speed stem cell cures to patients

Prop. 71 funds are focused on research with near-term goals.

**KAREN KAPLAN**

Dr. Karen Aboody estimates that she has cured several hundred mice of a cancer of the central nervous system called neuroblastoma.

First she injected them with specialized neural stem cells

For 3½ years, the agency focused on the basic groundwork needed to someday use human embryonic stem cells to replace body parts damaged by injury or disease. Such cures are still far in the future.

Now the institute has a more immediate goal: boosting therapies that are much further along in development and more often rely on less glamorous adult stem cells. It is concentrating its vast financial resources on projects that could

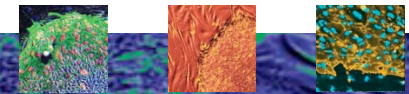
less crucial.

And since Proposition 71 was passed, scientists have created new kinds of stem cells — known as induced pluripotent stem cells — that can be coaxed to form many different types of tissues but are made without harming embryos and thus are eligible for federal funding.

When the institute handed out nearly \$230 million in October to 14 research teams, including Aboody's at City of Hope, it was its largest scientific investment by far. But it came with strings attached: In four years, recipients should have a clinical trial request ready to file with the FDA. Only four of the projects involve embryonic stem cells.

### A new emphasis

It is a significant change in direction for an effort originally designed to bolster research on human embryonic stem cells.

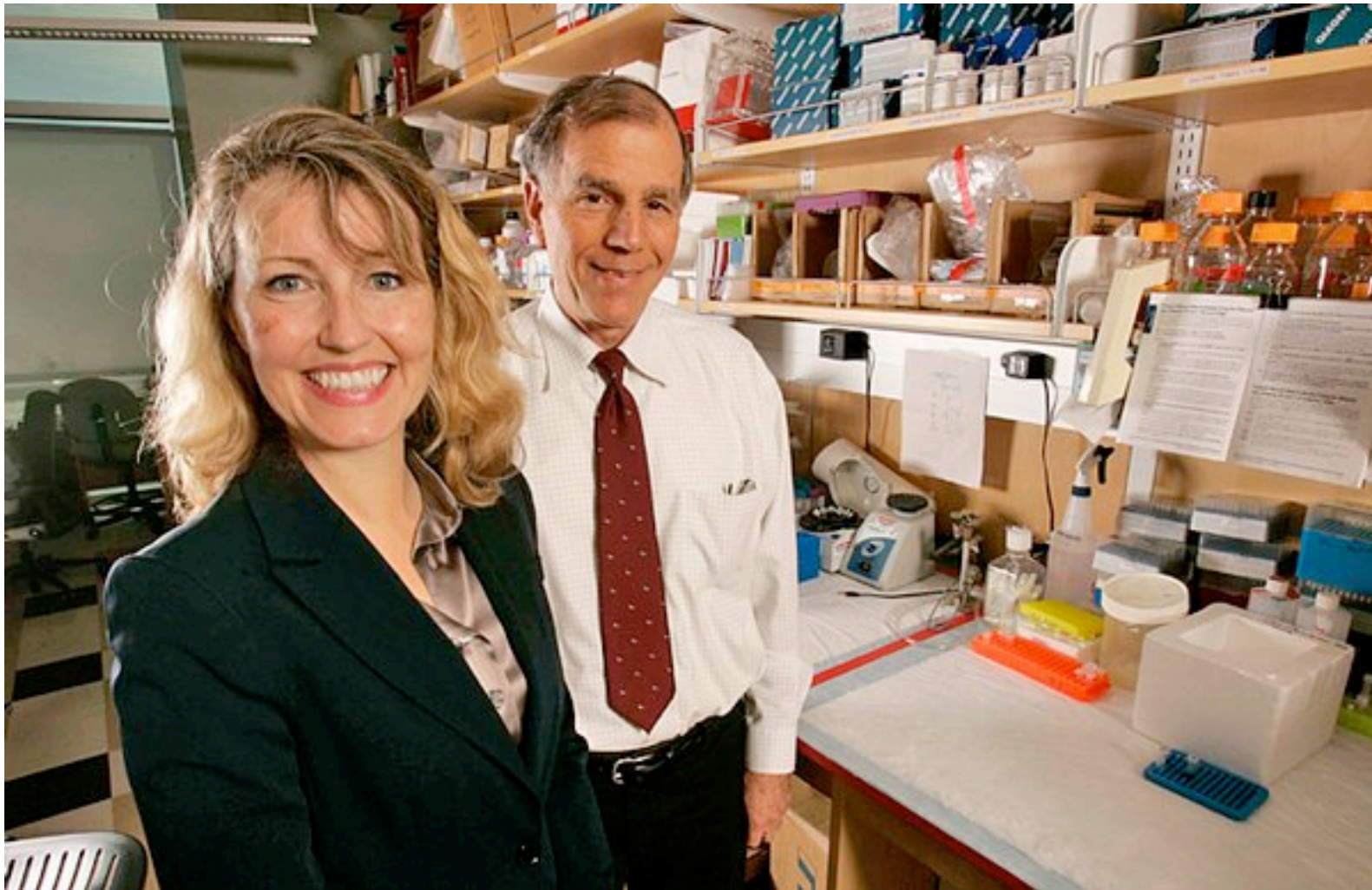




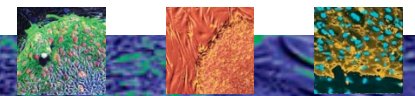
GINA FERAZZI LOS ANGELES TIMES

**RESEARCH:** Dr. Karen Aboody saw her sister-in-law suffer from breast cancer that had spread to her brain. She's convinced that stem cell therapy can be more effective and less debilitating. The Proposition 71 money will help her work.





By Scott LaFee, UNION-TRIBUNE STAFF WRITER





CALIFORNIA INSTITUTE FOR  
**CIRM**  
REGENERATIVE MEDICINE



FOR RESEARCHERS

FOR THE PUBLIC

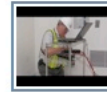
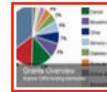
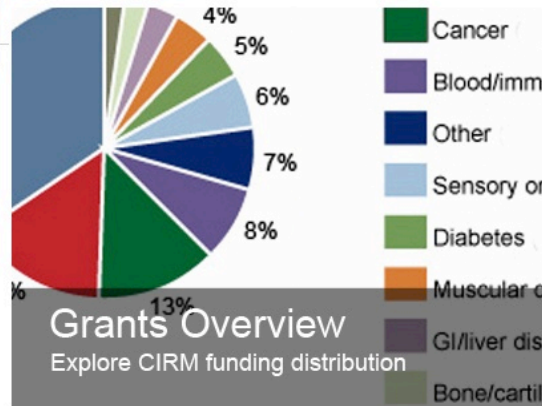
CIRM OPERATIONS

ABOUT CIRM

SEMINARS

EXPLORE FUNDING

See how CIRM grants are distributed across different cell types and disease categories.



LATEST PRESS RELEASE

- January 15 2010  
All 12 CIRM Major Facility Projects Moving Forward, Creating Jobs Today And Hope for Cures Tomorrow
- December 10 2009  
CIRM Provides \$11 Million Boost in Funding to Train Stem Cell Scientists
- October 28 2009  
CIRM, the UK and Canada Award more than \$250 Million to Accelerate the Pace of Bringing Stem Cell Therapies to the Clinic

Visit News Room

NEWS LETTER SIGNUP

Sign up to receive email alerts about CIRM news and events.

ANNOUNCEMENTS

- January 27 2010  
Statement from CIRM Regarding Resolution Passed by CFAOC Endorsing Certain Recommendations of the Little Hoover Commission
- January 14 2010  
Statement on American Journal of Public Health Report on CIRM

See all Announcements

CIRM FUNDING OF STEM CELL RESEARCH

Our Contributions

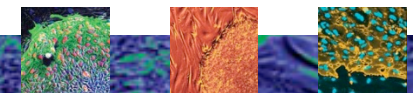
- Saving lives:** CIRM-funded research has already produced a therapy in clinical trials
- Creating jobs:** Our major facilities are generating 13,000 job-years of employment, bringing in \$100 million in tax revenue
- Lowering costs:** Therapies funded by CIRM will be available in California at discounted pricing

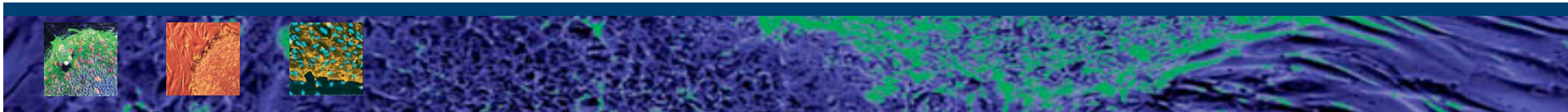
Read more about benefits to California

Our Funding

- Learn about CIRM rounds of funding
- Apply for funding

Click the map to learn about CIRM-funded Institutions





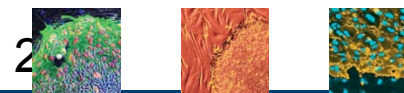
*The state stem cell agency*

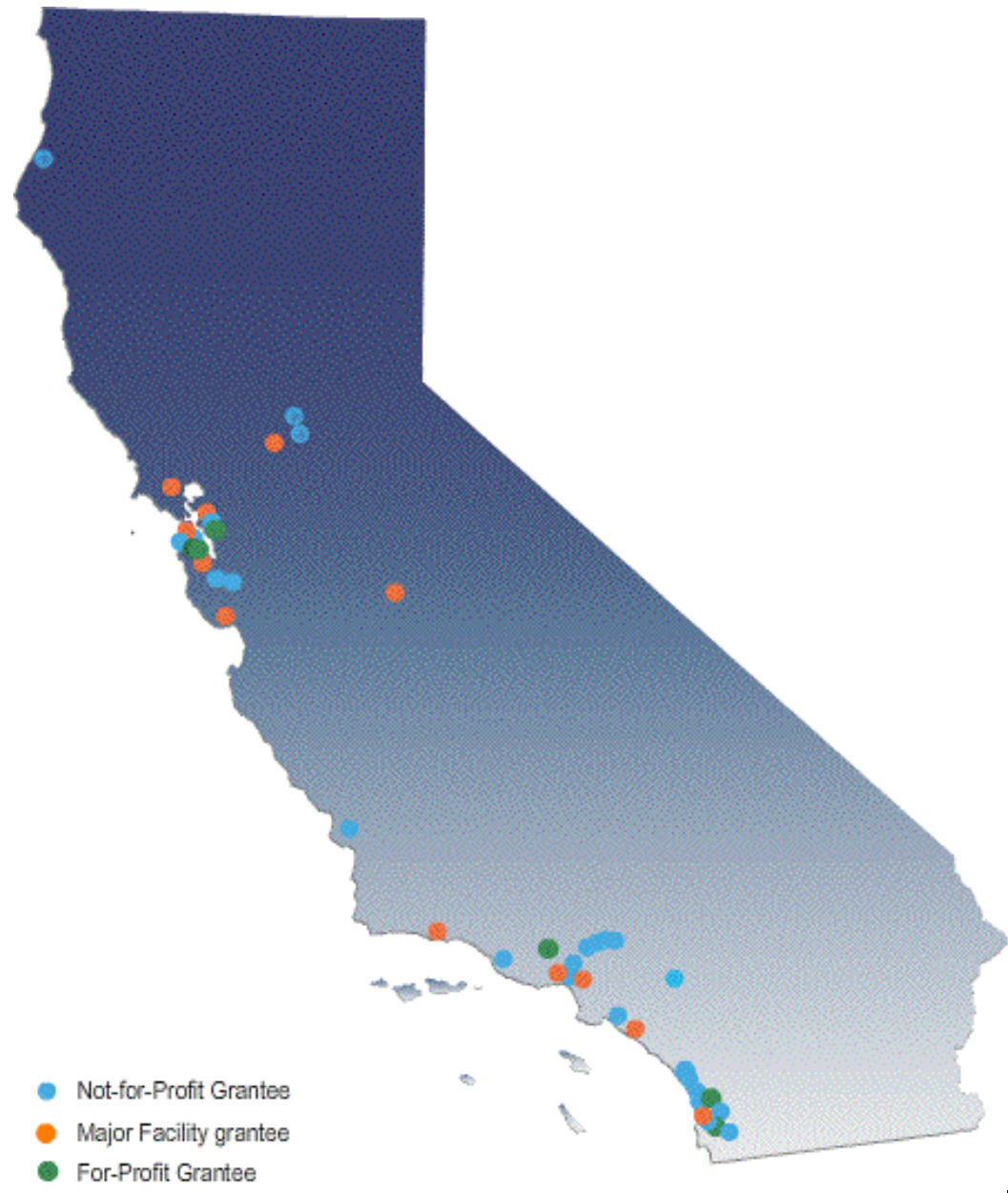
**Proposition 71**  
**Creating Jobs and a New Economic Engine Today**  
**Creating Cures Tomorrow *Maybe Two Already***

*name*

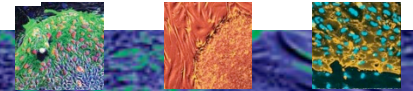
*title*

*date*

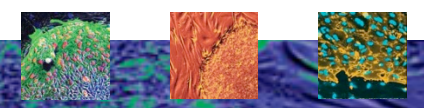




- Not-for-Profit Grantee
- Major Facility grantee
- For-Profit Grantee



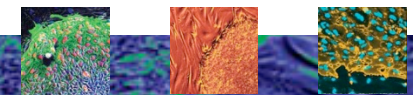
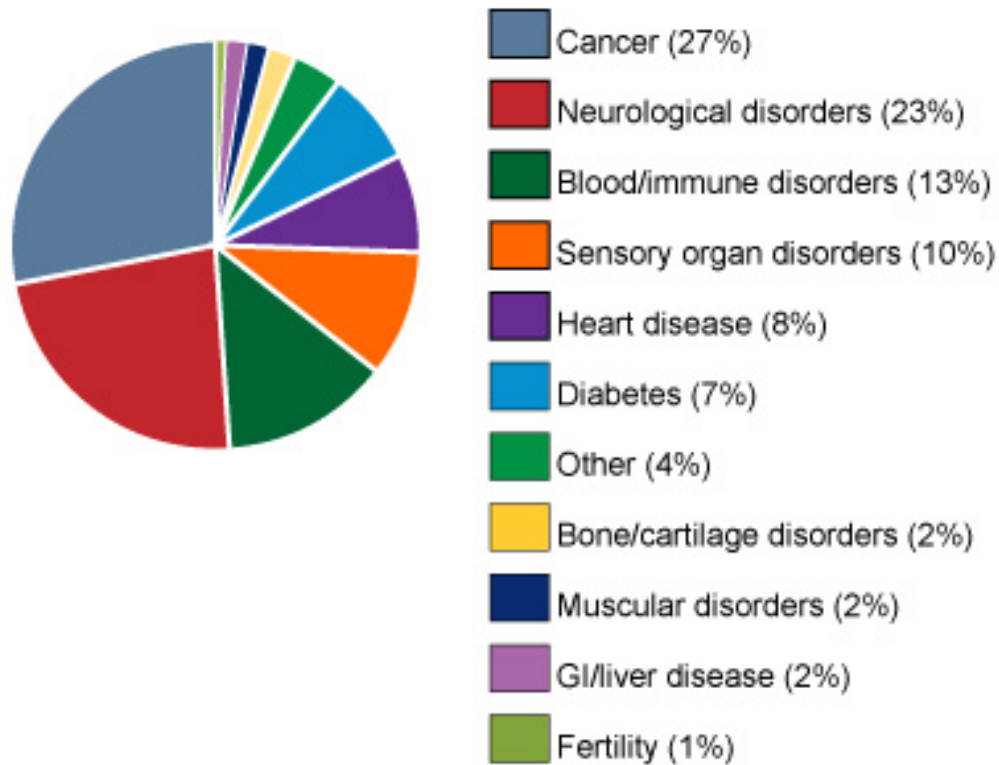
# SF Bay Area



- Disease areas funded

### Grant distribution: Funding by disease category

Percentages by funding level

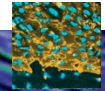




# Communications Update



- Working with traditional media
- Bypassing what is left of traditional media
- Going face-to-face
  - Slide deck for the board
  - **Slide deck for patient groups**
  - Town forums
  - Stem Cell Awareness Day
- Communications workshop for grantees
- Annual report
- High school curriculum



# Delivering Stem Cell Therapies to the Clinic

How disease team researchers are tackling diabetes and amyotrophic lateral sclerosis (ALS)

San Diego  
Natural History  
Museum

March  
31st  
2010

6:00 –  
7:30 PM

**Speakers:**

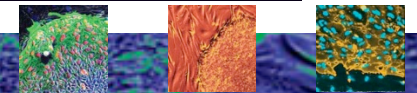
**E. Edward Baetge, Ph.D**

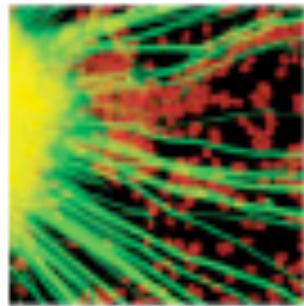
Senior Vice President and Chief Scientific Officer, Novocell

**Samuel Pfaff**

Professor and Helen McLoraine Developmental Chair in  
Neurobiology, The Salk Institute for Biological Studies

California Institute for Regenerative Medicine, the state stem cell agency created by Prop. 71. For more information, please visit [www.cirm.ca.gov](http://www.cirm.ca.gov).



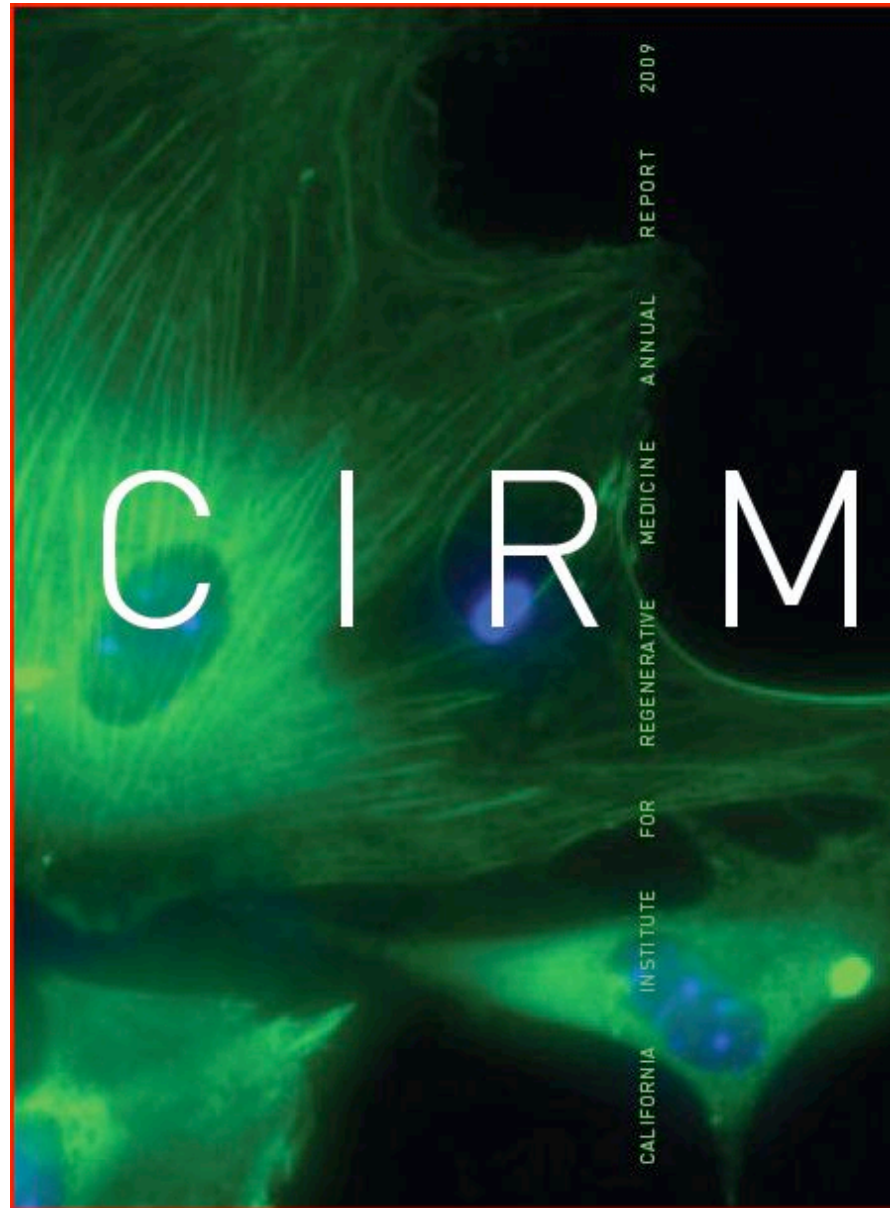


# STEM CELL

SEPT  
23RD  
2009

AWARENESS DAY







# CALIFORNIA INSTITUTE FOR CIRM REGENERATIVE MEDICINE



Home

## MODEL STEM CELL SCIENCE CURRICULUM

View Edit Revisions Track



## CIRM model curriculum on stem cell science

The following materials consist of **introductory and summary PowerPoint presentations** and **detailed lessons (modules)** developed by CIRM staff or CIRM-sponsored outreach programs, in collaboration with high school teachers in the Bay Area and San Diego. These detailed lessons comprise the "CIRM model curriculum on stem cell science" as discussed in Senate Bill 471 (Romero and Steinberg), the California Stem Cell and Biotechnology Education and Workforce Development Act of 2009, and signed by the Governor.

*These materials are suitable for use in 9th through 12th grade biology, advanced biology, AP biology, chemistry, advanced chemistry, AP chemistry, biotechnology, physiology, anatomy, and government courses.*

Jump to sections on this page:

- Introductory lessons on stem cells and regenerative medicine
  - Download presentations
  - Schedule a presenter
- Stem Cell Education Video Series
- Modules on stem cell science
  - Download the stem cell units

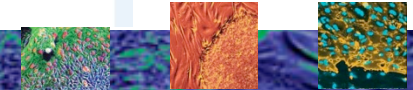
### FOR RESEARCHERS

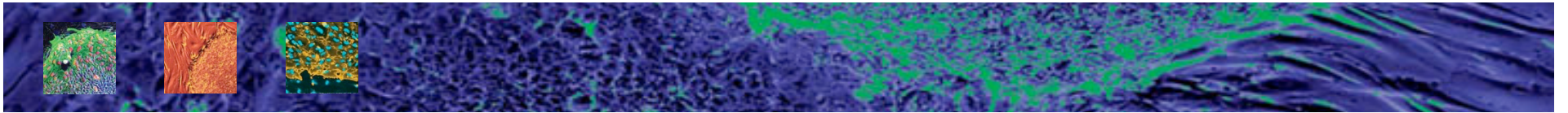
#### FOR THE PUBLIC

- Stem Cell Basics
- Stem Cell Videos
- Features
- Monthly digest
- Stem Cell Links
- How can I help?

### CIRM OPERATIONS

#### ABOUT CIRM





*The state stem cell agency*

# Communications

*Amy Adams*


*Communications Manager*

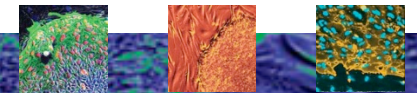


# Online Communications



Goal: To reach all demographics with information about CIRM's mission and accomplishments

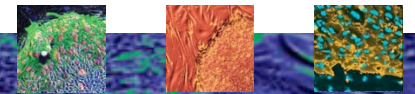
- Web page
-  Facebook
-  YouTube
-  CIRMResearch blog
-  Flickr
- Monthly Digest



# Communications Messages



- In all online communication we have the same messages
  - CIIRM is creating new stem cell-based cures
  - CIIRM is an economic benefit to California





# Web page - www.cirm.ca.gov



Goal: To provide all audiences with useful, accessible content

The screenshot shows the homepage of the California Institute for Regenerative Medicine (CIRM). At the top, there is a navigation bar with links for HOME, MEETINGS, JOBS/RFPs, RSS, and a search box. Below this is a banner for "The State Stem Cell Agency" featuring a family and a scientist. A secondary navigation bar includes "FOR RESEARCHERS", "FOR THE PUBLIC", "CIRM OPERATIONS", and "ABOUT CIRM". The main content area is divided into several sections: "CIRM MAJOR FACILITIES" with a large image of a construction site and text about 12 state-of-the-art facilities; "LATEST PRESS RELEASE" with a list of recent news items; "NEWS LETTER SIGNUP" with a sign-up prompt; "ANNOUNCEMENTS" with a recent statement; and "Our Contributions" with a list of achievements and a map link. The footer contains the date 2/4/10 and the page number 41.

» HOME » MEETINGS » JOBS/RFPs » RSS

Search

CALIFORNIA INSTITUTE FOR  
**CIRM**  
REGENERATIVE MEDICINE

*The State Stem Cell Agency*

FOR RESEARCHERS FOR THE PUBLIC CIRM OPERATIONS ABOUT CIRM

**CIRM MAJOR FACILITIES**

CIRM funded the construction of 12 state-of-the-art stem cell facilities in California to speed research toward new cures for disease.

Read about the progress

See a video about the facilities

**CIRM Major Facilities Opening Spring 2010**

**LATEST PRESS RELEASE**

- January 15 2010  
All 12 CIRM Major Facility Projects Moving Forward, Creating Jobs Today And Hope for Cures Tomorrow
- December 10 2009  
CIRM Provides \$11 Million Boost in Funding to Train Stem Cell Scientists
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CIRM, the UK and Canada Award more than \$250 Million to Accelerate the Pace of Bringing Stem Cell Therapies to the Clinic

Visit News Room

**NEWS LETTER SIGNUP**

Sign up to receive email alerts about CIRM news and events.

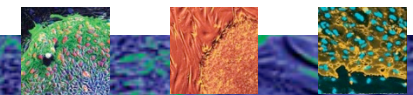
**ANNOUNCEMENTS**

- January 27 2010  
Statement from CIRM Regarding Resolution Passed by CFAOC Endorsing Certain

**Our Contributions**

- Saving lives:** CIRM-funded research has already produced a therapy in clinical trials
- Creating jobs:** Our major facilities are generating 13,000 job-years of employment, bringing in \$100 million in tax revenue
- Lowering costs:** Therapies funded by CIRM will be available in

Click the map to learn about CIRM-funded Institutions



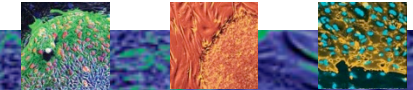
# Web page - [www.cirm.ca.gov](http://www.cirm.ca.gov)



Goal: To provide all audiences with useful, accessible content

The screenshot shows the homepage of the California Institute for Regenerative Medicine (CIRM). At the top, there is a navigation bar with links for HOME, MEETINGS, JOBS/RFPs, RSS, and a search box. Below this is a banner for "The State Stem Cell Agency" featuring a family and a scientist. A secondary navigation bar includes "FOR RESEARCHERS", "FOR THE PUBLIC", "CIRM OPERATIONS", and "ABOUT CIRM". The main content area is divided into several sections: "CIRM MAJOR FACILITIES" with a large image of a construction site and text about funding 12 state-of-the-art facilities; "LATEST PRESS RELEASE" with a list of recent news items; "NEWS LETTER SIGNUP" with a sign-up form; and "ANNOUNCEMENTS" with a statement from January 27, 2010. There is also a section for "CIRM FUNDING OF STEM CELL RESEARCH" and "Our Contributions" with bullet points about saving lives, creating jobs, and lowering costs.

- ~11,000 unique visitors/month
- Spend 3:41 on the site
- View 3.64 pages
- 55% in California
- 109 countries represented



# Web page - Education

## STEM CELL BASICS

View Edit Revisions Track

### Stem Cell Basics Primer

Get up to speed on stem cell research, from basic information about what the cells are to detailed descriptions of how the cells can improve human health.

- **Stem cell definitions**

The term "stem cell" by itself can be misleading. There are many different types of stem cells, each with very different potential to treat disease. Learn more about the different types of stem cells and their origins.

- **Creating new types of stem cells**

Generating new stem cell lines is a major focus of many CIRM funded researchers. Learn why these new lines are considered so important for the field to move forward.

- **Stem cells as therapies**

Stem cells have the potential to treat a wide range of diseases, including diabetes, neurodegenerative diseases, spinal cord injury, and heart disease. Learn why these cells are such a powerful tool for treating disease as well as what the current hurdles are before new therapies can become available.

- **Stem cells accelerating basic research**

In addition to replacing lost or damaged tissue, stem cells are expected to accelerate the type of basic drug discovery, drug screening, and disease research that is currently underway. Learn more about the many ways stem cells are used in basic medical research.

- **Stem cell research in California**

With funding from CIRM available to California researchers, the state is in a unique position within the United States. Learn more about how CIRM changes the landscape of research in California and about laws in other states.

- **Common questions about stem cell research**

There are a lot of myths about stem cell research, the origin of the stem cells themselves, and the type of work that takes place. Learn what really takes place in stem cell research.

## FOR RESEARCHERS

### FOR THE PUBLIC

#### Stem Cell Basics

Definition

New Stem Lines

Therapies

Basic Research

California

Common Questions

#### Stem Cell Videos

Features

Monthly digest

Stem Cell Links

How can I help?

## CIRM OPERATIONS

### ABOUT CIRM



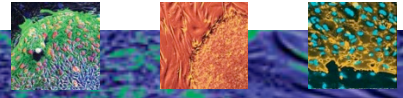
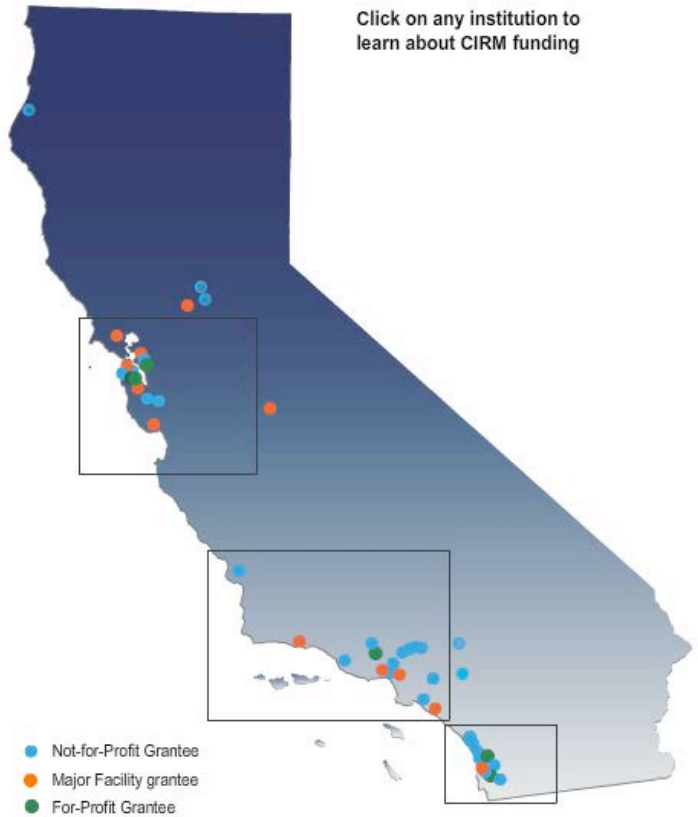
Search CIRM Grants



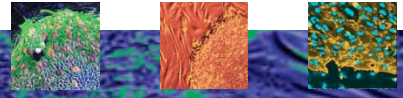
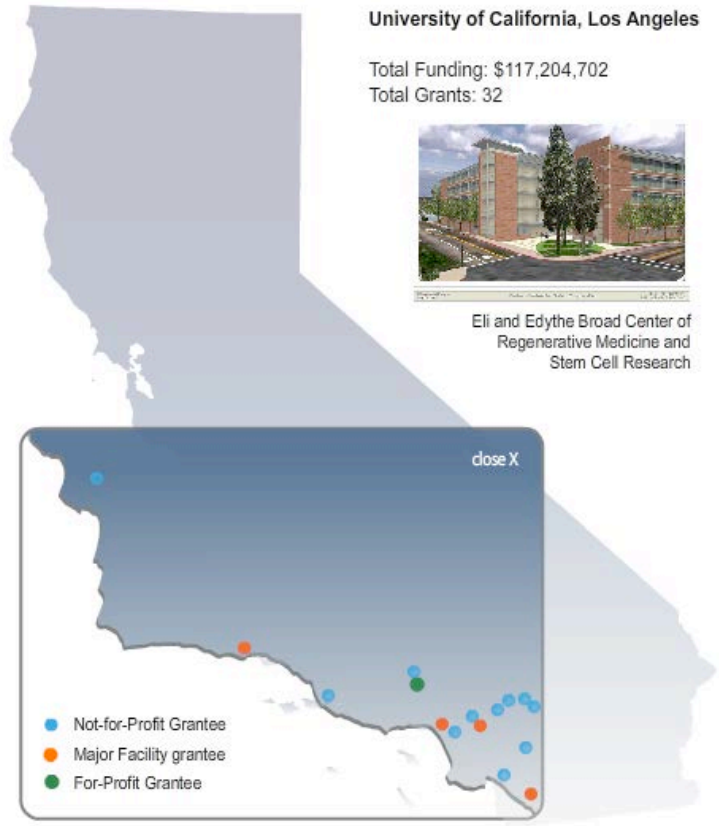
Explore CIRM Funding



# Web page - Interactivity



# Web page - Interactivity



# Web page - Features

**FEATURE: SIGHTS ON A CURE**

View Edit Revisions Track

features

## Sights on a Cure

STEM CELL SCIENTISTS HAVE MACULAR DEGENERATION IN THE CROSSHAIRS  
By Emmanuel Romero

At a 2008 Annual Exhibition in San Francisco's City Hall, abstract painter Virginia Knepper Doyle unveiled "Family Stories 2". The canvas's deliberate swirls of green, blue, beige and olive acrylic paint are meant to signify unity and kinship.



"Sailing on the Bay I." Watercolor. C. 2000.  
Before losing her vision, Virginia Knepper Doyle specialized in Impressionistic paintings.

[BACK](#) [NEXT](#)

Slideshow of paintings by Virginia Doyle from before and after she lost her vision.  
[\\*See a larger version](#)

**FOR RESEARCHERS**

**FOR THE PUBLIC**

- Stem Cell Basics
- Stem Cell Videos
- Features
- Monthly digest
- Stem Cell Links
- How can I help?

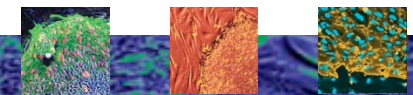
**CIRM OPERATIONS**

**ABOUT CIRM**

 Search CIRM Grants

 Explore CIRM Funding

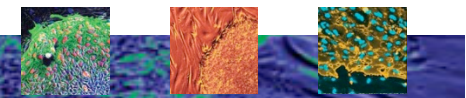
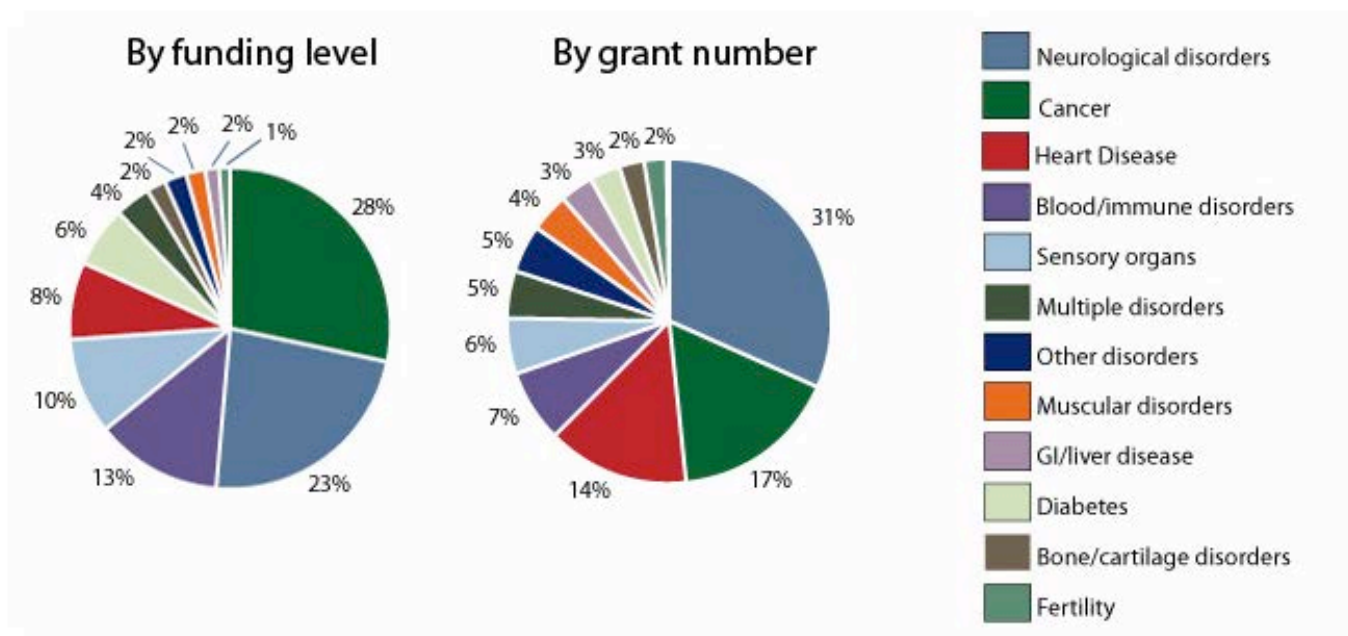
   



# Web page – Fund Allocation

## Disease categories

Includes all CIRM grants with a disease focus. Areas of disease impact are designated by percentage of committed funds (left) or by percentage of total grant number (right). Does not include grants with broader impacts, such as those seeking to understand basic mechanisms of stem cell biology or developing new tools and technologies for advancing therapies.



# Web page – Grant Information

HOME MEETINGS JOBS/RFPs RSS Search



Home

Locate CIRM Research Funding

Grant Type: New Cell Lines Institution: <Any> Apply

Institution	Researchers name	Grant Type	Grant Title	Related Information
Burnham Institute for Medical Research	Zhuohua Zhan	New Cell Lines	Derivation of Parkinson's Disease Coded-Stem Cells (RL1-00682-1)	
Salk Institute for Biological Studies	Fred Gage	New Cell Lines	Development of Induced Pluripotent Stem Cells for Modeling Human Disease (RL1-00649-1)	Videos: • Fred H. Gage talks about using embryonic stem cells to model disease (4:30)
Scripps Research Institute	Sheng Ding	New Cell Lines	Derivation of New ICM-stage hESCs (RL1-00642-1)	
Stanford University	Julie Baker	New Cell Lines	Derivation of hESC Lines with Disease Lesions (RL1-00630-1)	
Stanford University	Michele Calos	New Cell Lines	Safe, Efficient Creation of Human Induced Pluripotent Stem Cells Without the Use of Retroviruses (RL1-00634-1)	
Stanford University	Michael Longaker	New Cell Lines	Derivation and Analysis of Pluripotent Stem Cell Lines with Inherited TGF-Beta Mediated Disorders From Donated IVF Embryos and Reprogrammed Adult Skin Fibroblasts (RL1-00662-1)	Videos: • Scientific Writer's Seminar: Michael Longaker
Stanford University	Renee Reijo Pera	New Cell Lines	Derivation and Comparative Analysis of Human Pluripotent ESCs, iPSCs and SSCs: Convergence to an Embryonic Phenotype (RL1-00670-1)	

**FOR RESEARCHERS**

- Applying for Grants
- RFAs
- Review Reports
- Collaborative funding
- CIRM Regulation Guidance
- Workshop Reports

**FOR THE PUBLIC**

**CIRM OPERATIONS**

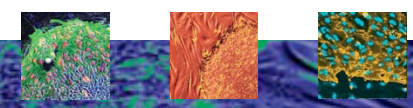
**ABOUT CIRM**

Search CIRM Grants

Explore CIRM Funding

« February 2010 »

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28





# Web page - Going forward

- Increase audience
  - More links
  - Better search
  - Be where people are

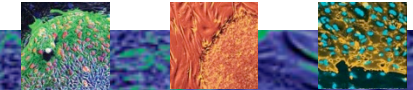


# Facebook Fan Page



Goal: To create a community of people who are engaged in the daily advances of CIRM

The screenshot shows the Facebook profile for the California Institute for Regenerative Medicine (CIRM). The page header includes the CIRM logo, the name "California Institute for Regenerative Medicine", and navigation tabs for "Wall", "Info", "Boxes", "RSS/Blog", "YouTube Box", and a "+" icon. Below the header is a text box for posting, currently containing "What's on your mind?". The main content area features a post from "California Institute for Regenerative Medicine" (Just Fans) with a "Settings" icon. The post text reads: "California Institute for Regenerative Medicine This story in today's San Diego Union Tribune features a \$20 million CIRM Disease Team Award given to Catriona Jamieson and partners in Canada. The group intends to develop a new therapy for leukemia, which afflicts more than 250,000 people in the U.S." Below the text is a photo of two women and a link to "Leukemia under the microscope - SignOnSanDiego.com". The post is dated "11 hours ago" and has "4 people like this". A comment from "Judy Roberson" is visible, stating: "Thank goodness--so many people have been stricken with leukemia. One of my good friends died from this at age 32." The left sidebar contains a bio: "CIRM funds adult and embryonic stem cell research at institutions and for-profit organizations in California. These funds are accelerating a field of research that holds the possibility of bringing new therapies for debilitating disease and injuries." Below the bio is an "Information" section with details: "Location: 210 King St, San Francisco, CA, 94107" and "Phone: 415 396-9100".



# Facebook – Going forward



- Increase fans
- Maintain engagement
- Use Facebook campaigns to involve fans in outreach and education



# YouTube



Goal: To educate people about CIRM's accomplishments and the value of stem cell research

**California Institute for Regenerative Medicine**  
CIRMTV's Channel [Subscribe](#) [All](#) [Uploads](#) [Playlists](#)

**Bringing Stem Cell Cures to the Clinic: UC Davis GMP Facility** 3 ratings ★★★★★  
From: CIRMTV | November 13, 2009 | 1,248 views  
The FDA requires the use of a Good Manufacturing Practice (GMP) facility for taking stem cell-based therapies into clinical trials. This GMP facility is a clean-room laboratory that ensures the therapeutic products will be safe and contamination-free for patients. [... \(more info\)](#)  
[View comments, related videos, and more](#)

**Uploads (25)**

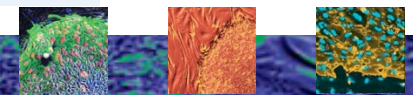
- Bringing Stem Cell Cures to the Clinic: UC Davis GMP**  
1,248 views - 2 months ago
- Progress and Promise in Macular Degeneration**  
1,104 views - 3 months ago
- Progress and Promise in Parkinson's Disease**  
10,113 views - 5 months ago

[see all](#) [arrange](#)

**CIRM News (6)**

- Obama Inauguration: A Positive Change in Federal**  
CIRMTV - 1,050 views
- CIRM Major Facilities Speed Science and Create Jobs**  
CIRMTV - 1,771 views
- Genetic Molecule Enables Safer Method For Creating**  
CIRMTV - 1,001 views

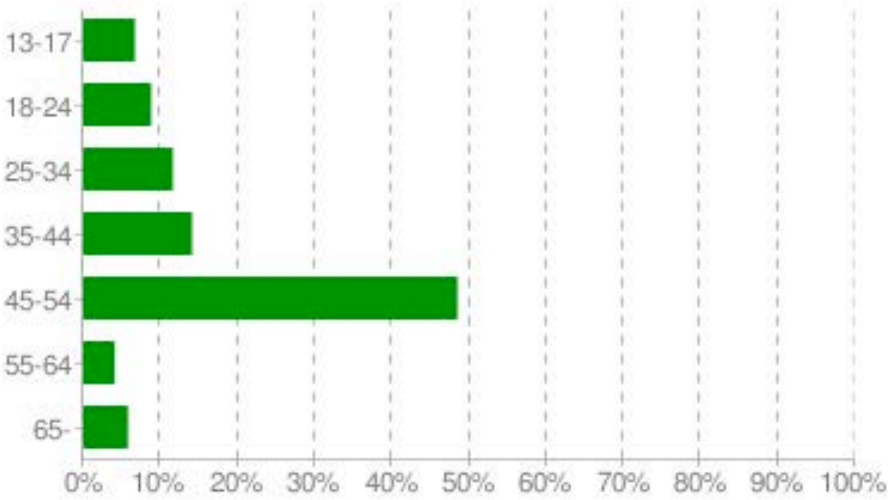
[see all](#)



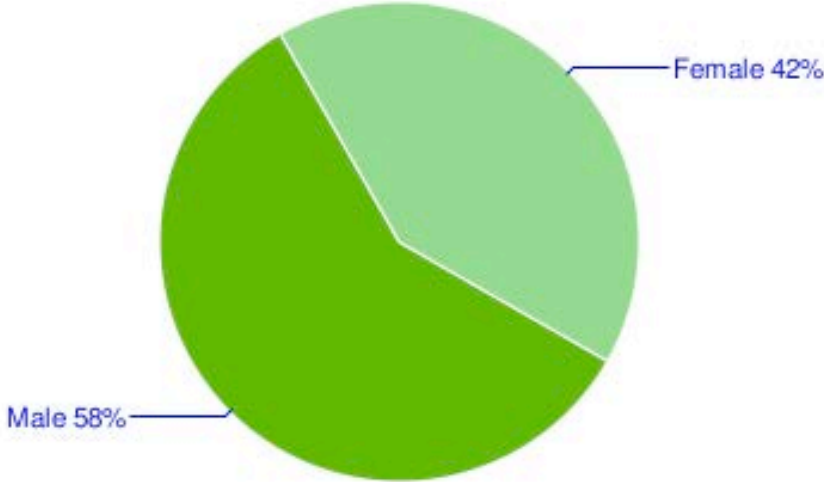
# YouTube – Our audience

## Demographics

Age ranges for:  All  Male  Female



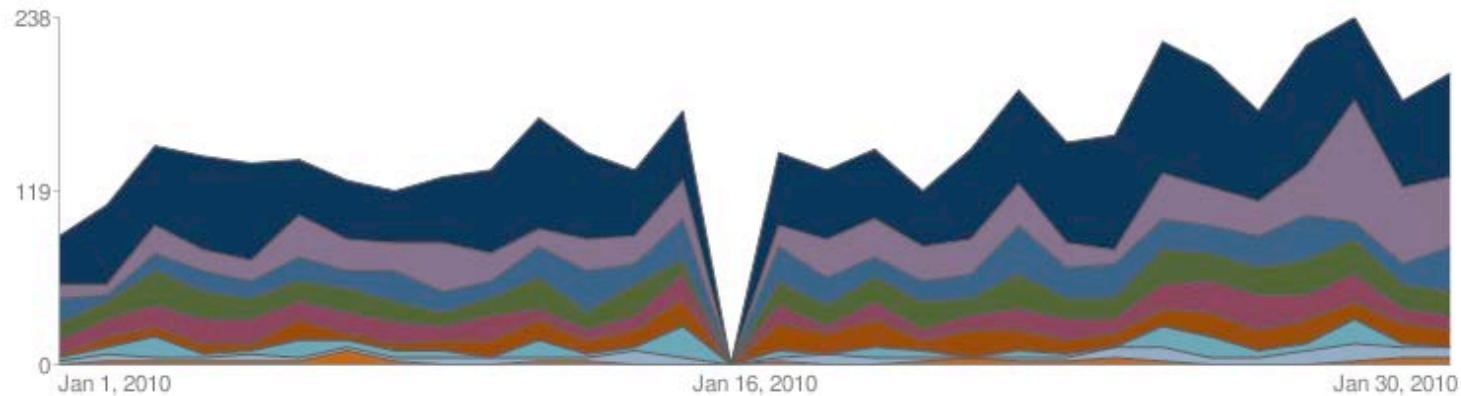
## Genders for all age groups



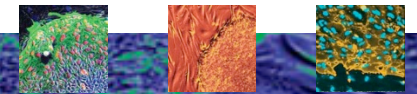
# YouTube – How viewers find us

**Discovery** How are people finding the videos in this channel?

Share of each source Display as:  Stacked chart  Line chart



<input checked="" type="checkbox"/> Source of views	Views	% of total views
<input checked="" type="checkbox"/> YouTube search	1680	36
<input checked="" type="checkbox"/> Embedded player	727	15
<input checked="" type="checkbox"/> Related videos	546	11
<input checked="" type="checkbox"/> Google search	488	11
<input checked="" type="checkbox"/> External links	373	8.1
<input checked="" type="checkbox"/> Viral / other (?)	336	7.3
<input checked="" type="checkbox"/> YouTube channel page player (?)	172	3.7
<input checked="" type="checkbox"/> YouTube other	137	3.0
<input checked="" type="checkbox"/> Mobile devices	95	2.0

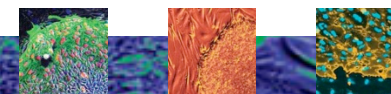


# YouTube – How viewers find us

Most viewers arrive via YouTube/Google search

<input checked="" type="checkbox"/> YouTube search <a href="#">Show all discovery</a>	Views	33.0% of total
<input checked="" type="checkbox"/> <a href="#">macular degeneration</a>	32	12
<input checked="" type="checkbox"/> <a href="#">stem cells and macular degeneration</a>	4	1.6
<input checked="" type="checkbox"/> <a href="#">what is macular degeneration</a>	2	0.8
<input checked="" type="checkbox"/> <a href="#">macula degeneration</a>	2	0.8
<input checked="" type="checkbox"/> <a href="#">degeneration</a>	2	0.8
<input checked="" type="checkbox"/> <a href="#">macular degeneration stem cell</a>	2	0.8
<input checked="" type="checkbox"/> <a href="#">macula dee generatie</a>	2	0.8
<input checked="" type="checkbox"/> <a href="#">stem cel eye maculer</a>	2	0.8
<input checked="" type="checkbox"/> <a href="#">macular degeneration in bc</a>	2	0.8
<input checked="" type="checkbox"/> <a href="#">wet macular degeneration</a>	2	0.8

⏪ ⏩



# YouTube – Attention ratings

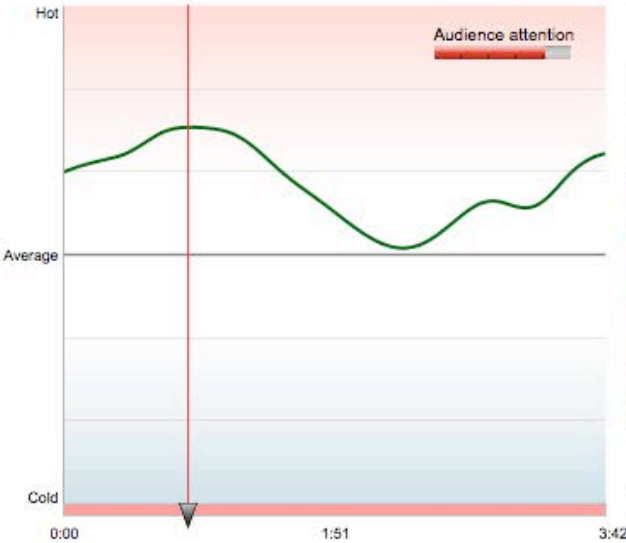


My Account ▾ / Insight Statistics

- All Videos
- Summary
- Views
- Discovery
- Demographics
- Community
- Progress and Promise in Macular Degeneration**
- Views
- Discovery
- Demographics
- Community
- Hot Spots

**Hot Spots** The ups-and-downs of viewership at each moment in your video, compared to videos of similar length.  
The higher the graph, the hotter your video: fewer viewers are leaving your video and they may also be rewinding to watch that point in the video again.  
Audience attention is an overall measure of your video's ability to retain its audience.

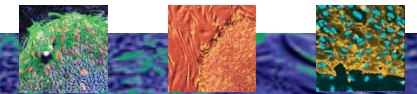




# YouTube – Attention is high globally

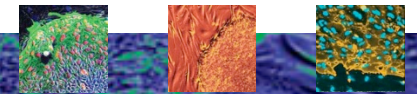
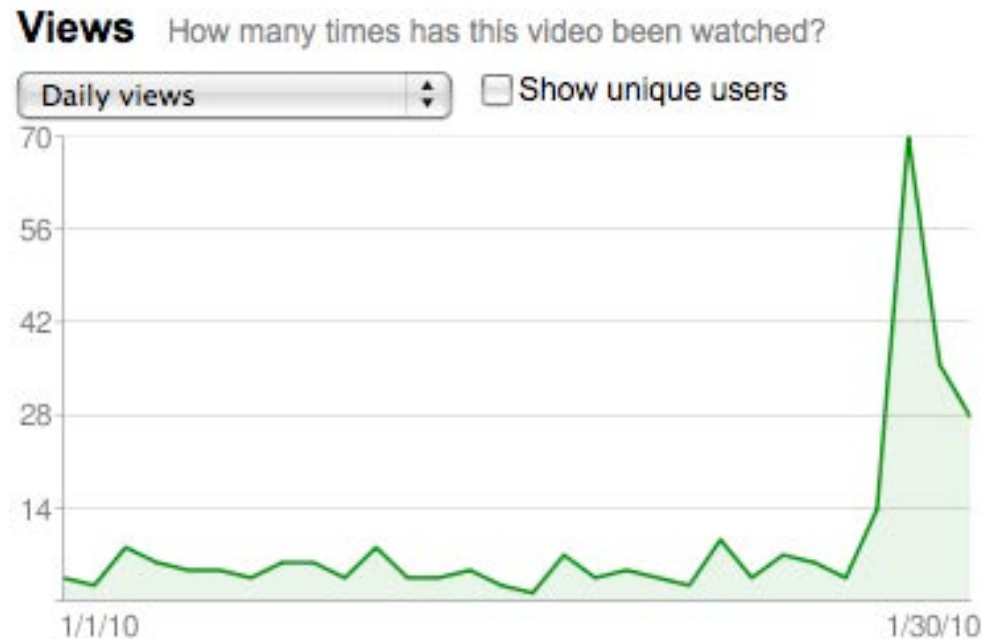
## My videos

Video	Views (% of total)	Attention
<a href="#">Progress and Promise in Parkinson's Disease</a>	47.2	
<a href="#">Bringing Stem Cell Cures to the Clinic</a>	8.9	
<a href="#">Irv Weissman: Differences between Stem Cells</a>	8.0	
<a href="#">Jerome Zack: Creating iPSC Cells</a>	6.6	
<a href="#">Progress and Promise in Macular Degeneration</a>	5.6	
<a href="#">Hans Keirstead: Developing the First Stem Cell Therapy</a>	3.8	
<a href="#">Catriona Jamieson: Therapies for Parkinson's Disease</a>	2.7	
<a href="#">CIRM Major Facilities Speed Scientific Research</a>	2.3	
<a href="#">Paul Knoepfler: Tumor Formation in Stem Cell Therapy</a>	1.6	
<a href="#">Spotlight on Leukemia</a>	1.6	



# YouTube – How viewers find us

- Embedded player (CIRM, grantee, elsewhere)

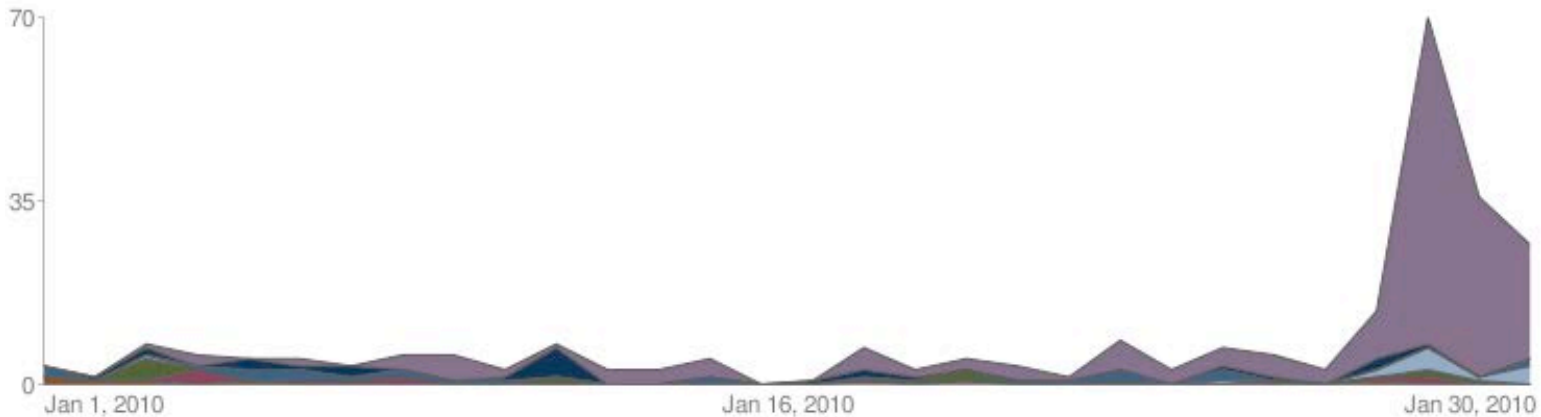


# YouTube – How viewers find us



**Discovery** How are people finding this video?

Share of each source Display as:  Stacked chart  Line chart



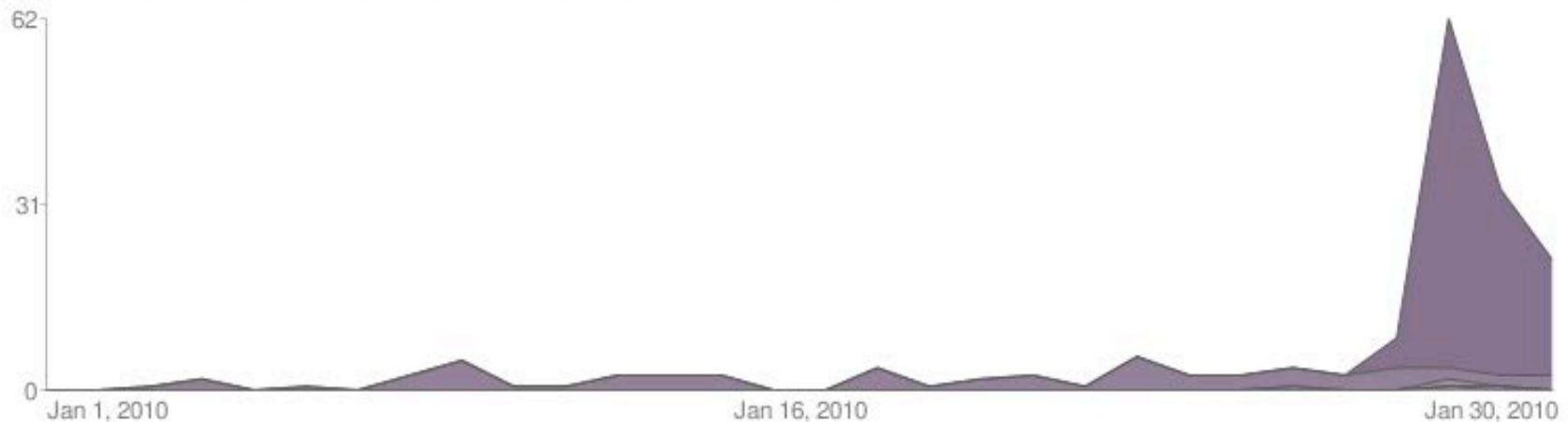
<input checked="" type="checkbox"/> Source of views	Views	% of total views
<input checked="" type="checkbox"/> <a href="#">Embedded player</a>	180	67
<input checked="" type="checkbox"/> <a href="#">YouTube search</a>	21	7.9
<input checked="" type="checkbox"/> <a href="#">Related videos</a>	21	7.9
<input checked="" type="checkbox"/> <a href="#">YouTube other</a>	12	4.5
<input checked="" type="checkbox"/> <a href="#">Google search</a>	12	4.4
<input checked="" type="checkbox"/> <a href="#">External links</a>	11	4.1
<input checked="" type="checkbox"/> <a href="#">Viral / other (?)</a>	6	2.2
<input checked="" type="checkbox"/> <a href="#">Mobile devices</a>	2	0.75



# YouTube – How viewers find us

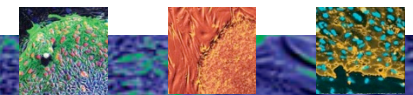
## Discovery External websites that embed this video

Share of embedded player Display as:  Stacked chart  Line chart



Embedded player [Show all discovery](#)

	Views	67.0% of total
<input checked="" type="checkbox"/> <a href="http://www.cienciahoje.pt">www.cienciahoje.pt</a>	113	42
<input checked="" type="checkbox"/> <a href="http://www.cirm.ca.gov">www.cirm.ca.gov</a>	63	23
<input checked="" type="checkbox"/> <a href="http://www.doarvida.blogspot.com">www.doarvida.blogspot.com</a>	1	0.37
<input checked="" type="checkbox"/> <a href="http://cirm.ca.gov">cirm.ca.gov</a>	1	0.37
<input checked="" type="checkbox"/> <a href="http://infodiasms.blogspot.com">infodiasms.blogspot.com</a>	1	0.37
<input checked="" type="checkbox"/> <a href="http://doarvida.blogspot.com">doarvida.blogspot.com</a>	1	0.37



# YouTube – How viewers find us

Segunda-feira, 1 de Fevereiro de 2010

## CiênciaHoje®

Director: Jorge Massada  
Subdirectores: Raquel Soares e Tiago Fleming Outeiro

As Ciências

A Revista

Dossiers

Fóruns

Encartes

Classificados

Agenda da Ciência

## A pastilha que mudou o Mundo!

### Pílula faz 50 anos

2010-02-01

Por Jorge Massada

SHARE



Foi em 23 de Junho de 1960 que a Food and Drug Administration (FDA) autorizou a comercialização da pílula anticoncepcional,

após alguns anos de experiências, nomeadamente em mulheres porto-riquenhas. Talvez este organismo americano não soubesse mas acabava de colocar em marcha aquela que seria, provavelmente, a maior revolução de costumes do século passado. Ciência Hoje assinala os 50 anos com um dossier/ fórum.

**Governo cria conta poupança para bebés** - Foi hoje aprovada em conselho de ministros uma das bandeiras socialistas para esta legislatura: a conta-poupança para recém-nascidos com um depósito inicial de 200 euros

Receba a nossa informação:

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CENTENÁRIO DA REPÚBLICA

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Suplemento  
CulturaHoje

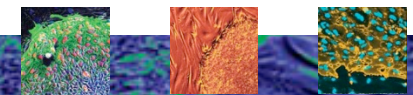
Junte-se a nós



Parceiros de Excelência  
Ciência Viva FCCN UTL

n&n's  
NANOCIÊNCIAS & NANOTECNOLOGIAS

Inscrições: Até 31 de Janeiro de 2010



# YouTube – Going forward



- Provide more disease-specific videos
  - These are our most popular videos
  - Parkinson's Disease is the most popular with ~10,000 views to date
- Increase daily views while maintaining high attention ratings



# CIRMResearch.blogspot.com



Goal: To highlight progress by CIRM grantees

CALIFORNIA INSTITUTE FOR  
**CIRM**  
REGENERATIVE MEDICINE

## CIRM Research Results

Summaries of publications based on funding by the California Institute for Regenerative Medicine

WEDNESDAY, JANUARY 27, 2010

### Visual Function Rescued in Rats Using Cells derived from iPS Cells

Induced pluripotent stem (iPS) cells have created excitement and head scratching ever since they were first created a little over two years ago. The excitement arises from their creation through reprogramming adult cells by manipulating their gene function, which does not require a human embryo and could potentially give a patient personalized replacement cells. But determining just how identical they are to embryonic stem cells in function has caused much consternation.

Now, a team at UC Santa Barbara and University College London has provided some pro and con information on the functionality question. Working in a rat model for age-related macular degeneration in which defects in retinal pigmented epithelial (RPE) cells lead to death of photoreceptors, they showed that RPE cells grown from iPS cells inserted into the retina prior to photoreceptor death were able to rescue the receptors and the rats retained vision.

A [press release](#) from UCSB quoted Sherry Hikita, an author on the paper saying:

"Although much work remains to be done, we believe our results underscore the potential for stem-cell based therapies in the treatment of age-related macular degeneration."

However, the team also saw a difference between the iPS derived RPE cells and embryonic stem cell-derived RPE cells used in earlier experiments. The ESC-derived cells survived after transplant long-term

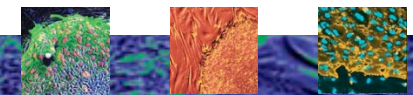
**FOR RESEARCHERS** ▾  
**FOR THE PUBLIC** ▾  
**CIRM OPERATIONS** ▾  
**ABOUT CIRM** ▾

About CIRM

CIRM

The California Institute for Regenerative Medicine funds stem cell research at research institutions and companies throughout California. The organization was established in 2004 with the passage of Proposition 71, which provided \$3 billion in funding. Our grants support research with embryonic, adult and reprogrammed (iPS) stem cells, all with the goal of bringing new medical therapies to the people of California and the world.

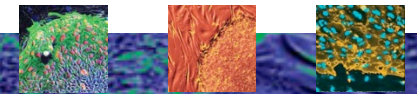
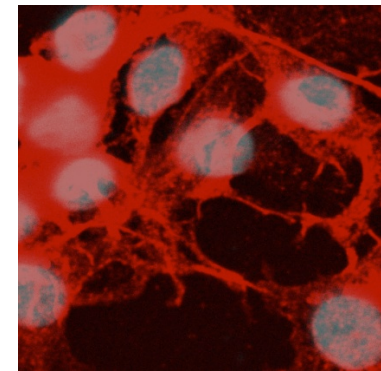
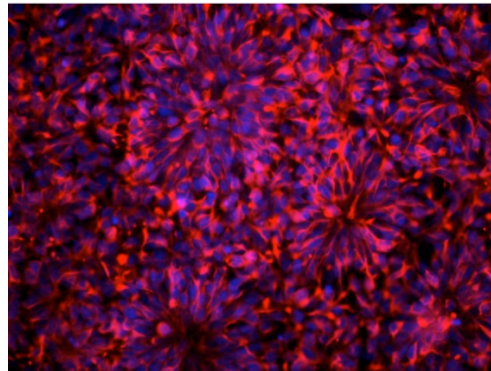
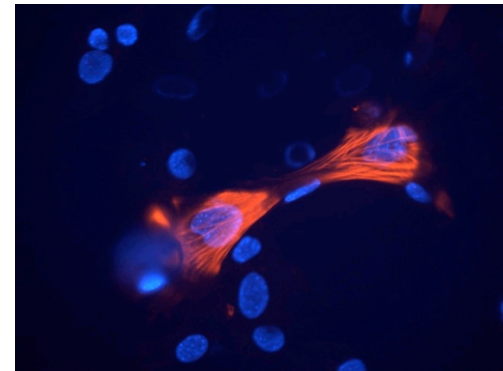
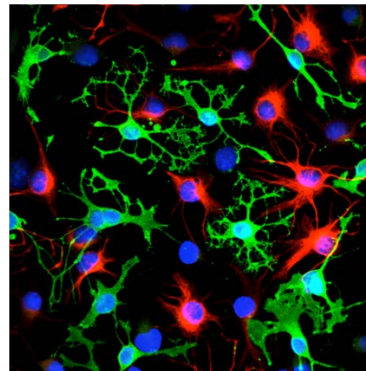
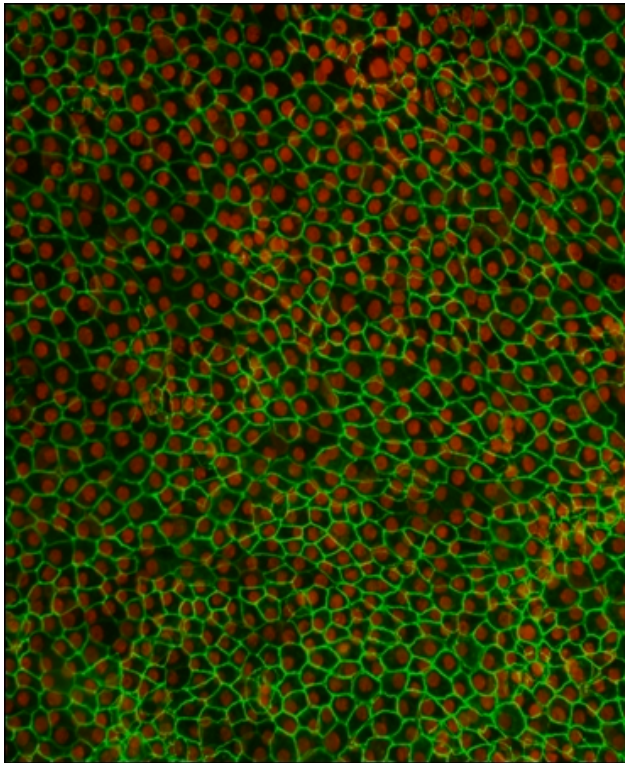
[View my complete profile](#)



# Flickr – [www.flickr.com/photos/cirm](http://www.flickr.com/photos/cirm)



Goal: To show the beauty of stem cell research and provide images to news outlets





# Monthly Digest



Goal: To update interested parties about CIRM's activities

Email not displaying correctly? View it in your browser.

**CIRM** CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE  
*The State Stem Cell Agency*

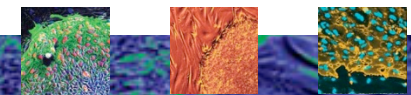
- Become a fan
- Follow our Blog
- Watch our videos
- See images

## CIRM January Digest



The CIRM review panel that in April 2008 recommended providing over \$270 million to construct 12 major stem cell research facilities in California met on January 15th to review the status of these projects and found that all were moving forward, with 11 having construction well underway.

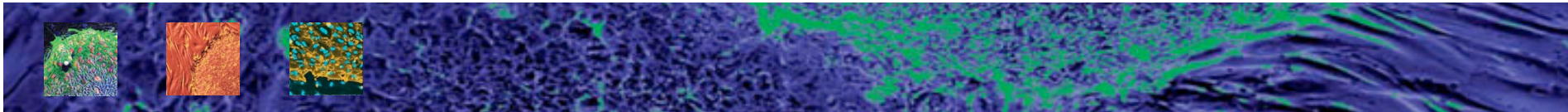
An independent review of the impact of this investment for the state economy last year by The Analysis Group suggested that the projects would create 13,000 job years of employment and \$100 million in tax revenue between 2008 and 2011.



# Conclusion

- Put information about CIRM where people can find it
- Dispersed information drives people to our site
- More people learn about the value of CIRM and about advances by our grantees





*The state stem cell agency*

# **2009-10 Budget Allocation and Expenditure Report**

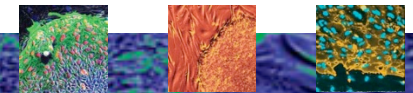
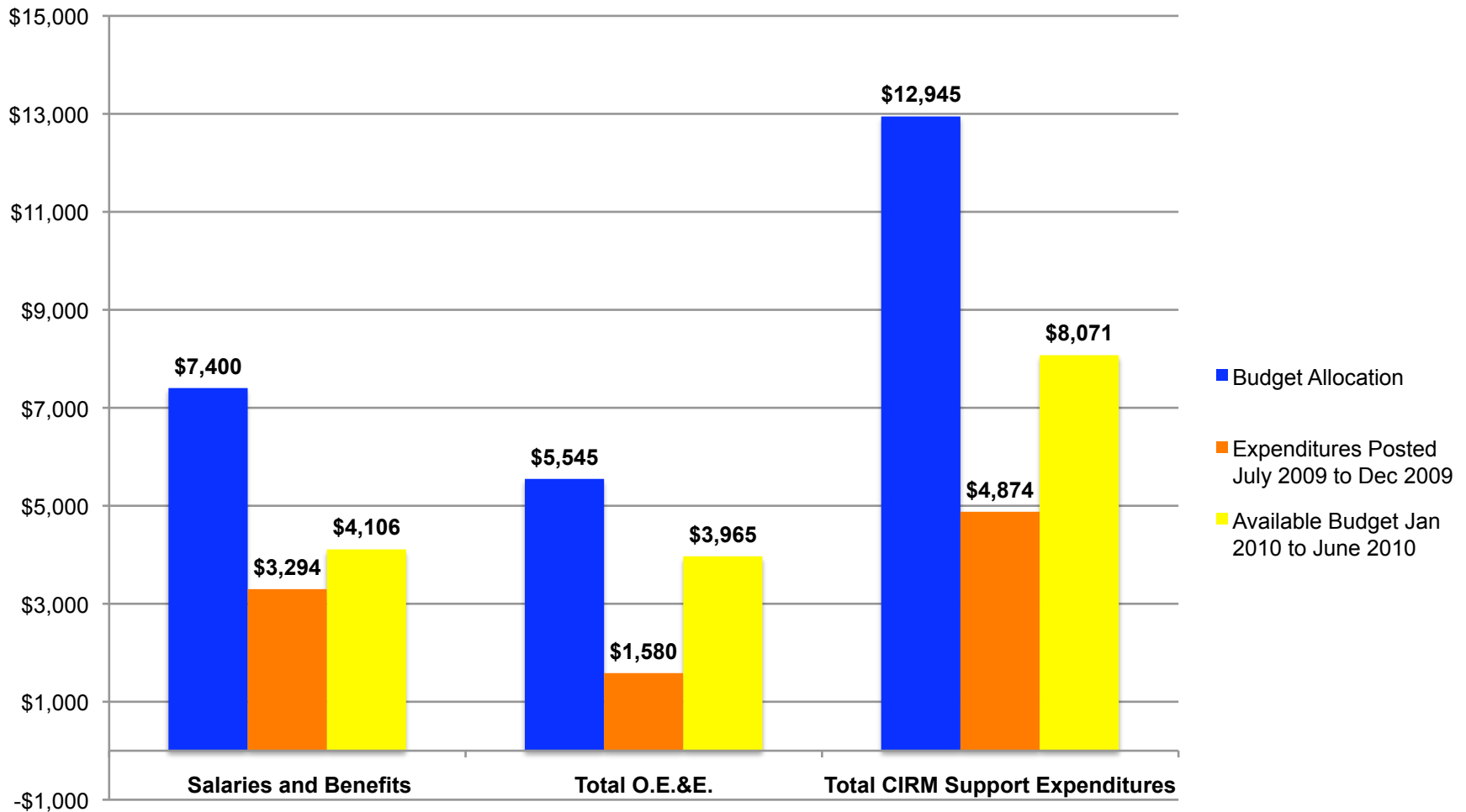
**Posted Through December 31, 2009**

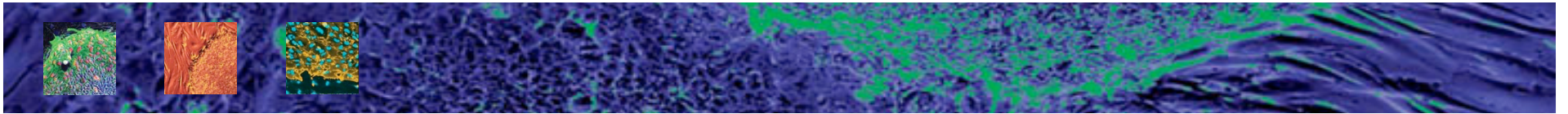
***Chila Silva-Martin,  
Financial Services Officer***

**February 3-4, 2010 ICOC Board Meeting**

# Fiscal Year 2009-10

## Expenditures Posted Through December 2009





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# **CIRM Operations Summary**

## **ICOC - February 2010**

**John Robson, PhD**  
**VP Operations**



# Financial Projections



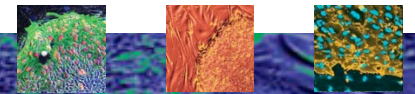
# CIRM Funding Financial Projections to 6/30/11



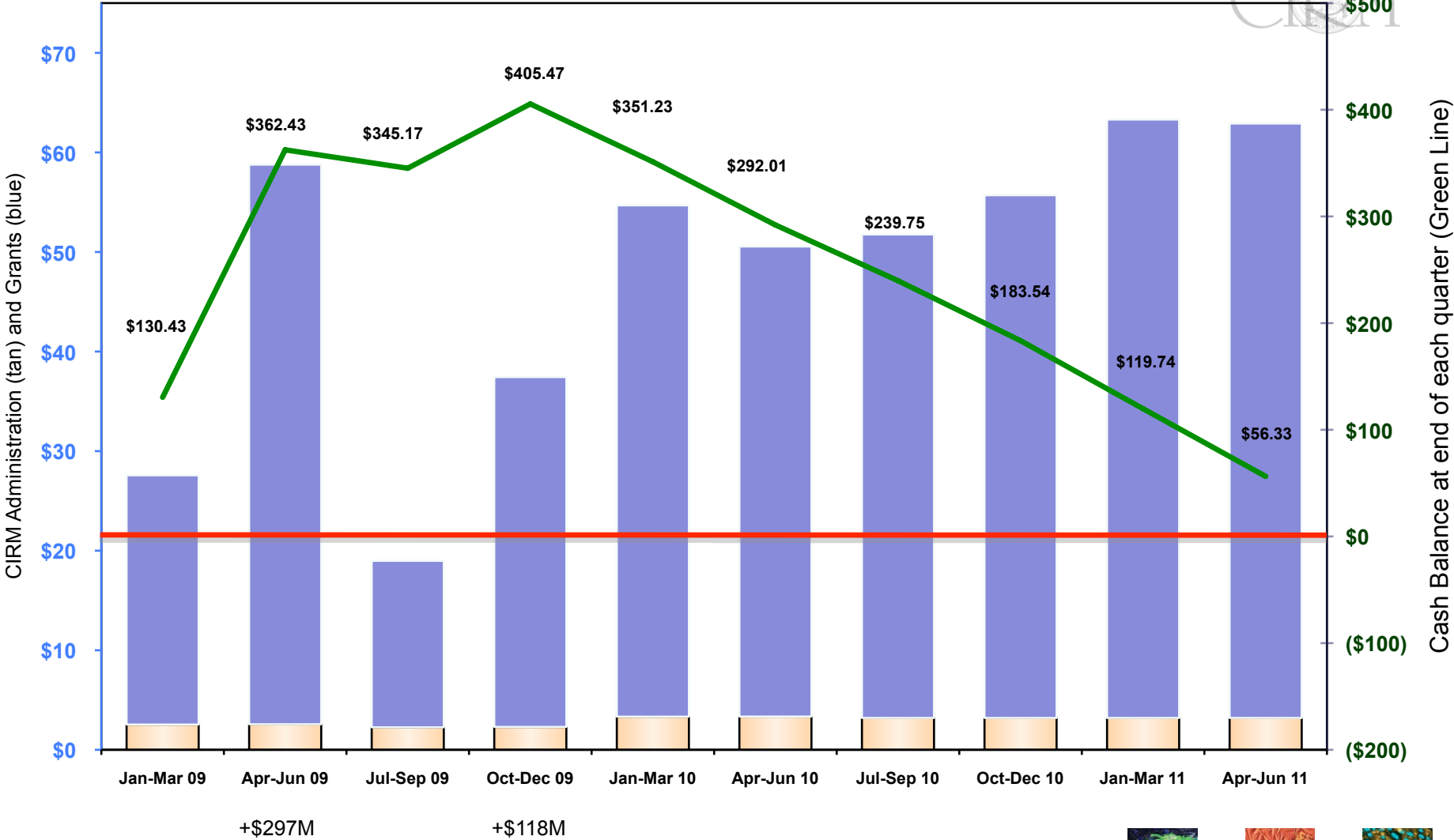
**Includes: All programs approved by the  
ICOC**

## **Programs with ICOC concept approval:**

- Basic Biology II - \$30 million
- Immunology - \$30 million
- Research Leadership Awards - \$44 million
- Early Translation 2 – \$80 million

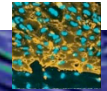


# CIRM Funding Financial Projections to 6/30/11





# Major Facilities



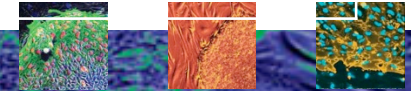
# Status Report

## Major Facilities Projects



**8 of 12 projects are on schedule:**

<u>Grantee Institution</u>	<u>Completion</u>	<u>CIRM Award</u>
Stanford University	July 2010	\$43,578,000
UC San Francisco	June 2010	\$34,862,400
UC Irvine	July 2010	\$27,158,000
USC	July 2010	\$26,972,500
UC Davis	May 2010	\$20,082,400
UC Los Angeles	May 2010	\$19,854,900
UC Berkeley	June 2010	\$20,183,500
UC Santa Barbara	March 2010	\$3,205,800



# Stanford University Lorry I. Lokey Stem Cell Research Building



# UC Davis Institute for Regenerative Cures



# UC Davis Institute for Regenerative Cures



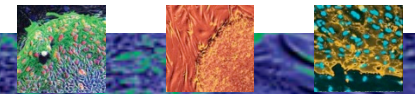
# Status Report

## Major Facilities Projects



**3 of 12 projects are delayed 1 year:**

<b><u>Grantee Institution</u></b>	<b><u>Completion</u></b>	<b><u>CIRM Award</u></b>
San Diego Consortium	June 2011	\$43,000,000
UC Santa Cruz	Nov. 2011	\$7,191,950
UC Merced	Sept. 2011	\$4,359,480



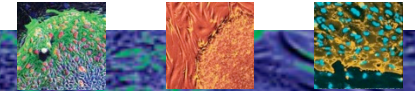
# Status Report

## Major Facilities Projects



**1 project is about to begin construction:**

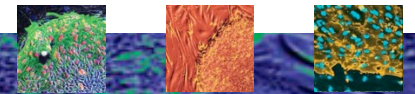
<b><u>Grantee Institution</u></b>	<b><u>Completion</u></b>	<b><u>CIRM Award</u></b>
Buck Institute	March 2012	\$20,500,000



# Major Facilities Projects

## 2010

- **Planning programmatic site visits to all projects that received up-front funding.**
- **Planning technical site visits for other projects.**
- **Independent audits are due within 120 days after completion.**





# Economic Impact



# Economic Impact



**Develop model to evaluate the economic impact of CIRM's investments including:**

- Job creation
- Tax revenues
- Funds leveraged
- Health care savings



# Economic Impact



## Initial “test study” of Polycythemia Vera and Primary Myelofibrosis

Draft/model will be critiqued by external experts including:

Health Economists  
Medical Specialists



# External Review



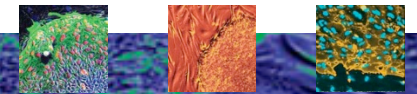
# External Review

**2006 Strategic Plan calls for a review after 3 years by a “blue-ribbon” committee of:**

- Scientists
- Clinicians
- Ethicists
- Patient Advocates

**Goals of the review are to:**

- Measure progress against stated commitments
- Evaluate strategic principles
- Make recommendations for changes



# External Review



## **Building a list of reviewers (5-7):**

- Internationally known
- Mostly from outside California

## **Developing time-line and procedures**

## **Modeling long-range projection for entire \$3 billion authorization**

