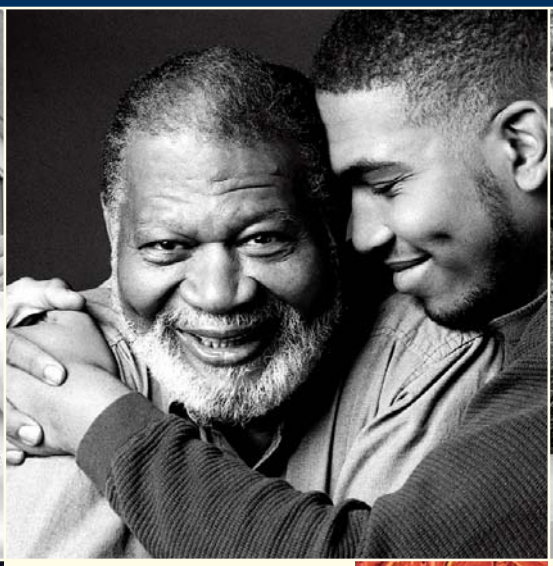
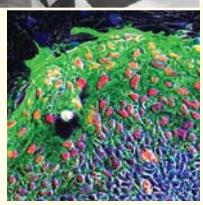
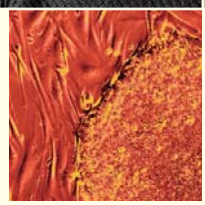
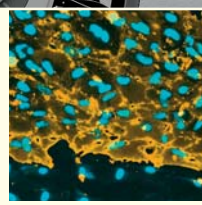
CALIFORNIA INSTITUTE for REGENERATIVE MEDICINE
ANNUAL REPORT 2007









Today's Investment | Tomorrow's Therapy | Future Cures

The California Institute for Regenerative Medicine ("CIRM") was established by Proposition 71, the California Stem Cell Research and Cures Initiative. The statewide ballot measure, which provided $3 billion in funding for stem cell research at California universities and research institutions, was approved by 59% of California voters on November 2, 2004, and called for the establishment of a new state agency to make grants and provide loans for stem cell research, research facilities and other vital research opportunities. The Independent Citizens Oversight Committee ("ICOC") is the 29-member governing board of the Institute; the ICOC members represent California's leading public universities, non-profit academic and research institutions, patient advocacy groups and the biotechnology industry.

* *Peer Review* includes comments by:
Harvey V. Fineberg, M.D., Ph.D.
President, Institute of Medicine
Ralph Cicerone, Ph.D.
President, National Academy of Sciences

** *Disease Team Initiative* by:
Floyd Bloom, M.D.,
ICOC member and former Editor-in-Chief of *Science*

Facing page, top:
Youth with spinal cord injury ▸

The mission of CIRM: To support and advance stem cell research and regenerative medicine under the highest ethical and medical standards for the discovery and development of cures, therapies, diagnostics and research technologies to relieve human suffering from chronic disease and injury.

To the People of California

A MESSAGE FROM THE CHAIR: ROBERT N. KLEIN, J.D.

For families suffering from chronic disease or injury, Proposition 71 has brought hope; for medical scientists who have dedicated their lives to reducing human suffering, it has been an inspiration; and for patient organizations, it created a paradigm change in the structure, scope and term of medical research funding in America.

To date, almost $260 million in grants have been approved by the governing board after a competitive, scientific peer review process, and another $300 million is in the approval process. All elements of the court system in California, including the Supreme Court, have exhaustively reviewed the grant making system, the medical and ethical standards, the conflicts policies and the constitutional authority of the governing board and the agency. The Supreme Court has found that all of the Initiative's aspects are constitutional and that the agency and the board have operated in a manner completely consistent with the statutory intent and all state laws.

SCIENTISTS AND PHYSICIANS ARE THE "ACTION HEROES" OF THE 21ST CENTURY

Governor Schwarzenegger, speaking at the Institute's public hearing for "SEED Grants" (exploratory start up grants for brilliant new ideas), called the medical scientists and physicians dedicated to this work, "The Action Heroes of the 21st century". While we can provide the funding and the legal sanctuary for these brilliant scientists and physicians to advance therapeutic research, it is the dedication and commitment of their lives to this new field of medicine that holds the promise of changing the future of treatment of chronic disease. One must remember, as recently as 2003, the U.S. House of Representatives passed the Weldon bill (blocked by the U.S. Senate) which would have criminalized embryonic stem cell research and the scientists and physicians dedicated to this field would have been subject to ten years in prison and $1 million fines. Knowing the recent history and the controversy surrounding the field, for the best and brightest of a generation to commit their careers to this research is extraordinary. For this we are deeply appreciative. We, however, must also remember that in 1977 the last great frontier of medical research—recombinant DNA—was met by protest and ideological attacks often similar to those launched against embryonic stem cell research today. The protesters claimed the research would never lead to medical therapies, in the lifetimes of those living or their children. Because the Federal government did not shut down this research, the first great medical breakthrough came in 1978, from two California institutions, the University of California, San Francisco and the City of Hope National Medical Center. The therapy was artificial human insulin, which keeps my son (who has juvenile diabetes) alive and millions of other men, women, and children alive. In the next decade it led to more than one hundred critical heart and cancer therapies saving tens of thousands of lives, and in the most recent decade it contributed to the knowledge that permitted us to decode the human genome. All of this would have been lost, if funding for this frontier of medicine had been shut down. This is our legacy. The history informs our responsibility for it is now California's opportunity to advance the next great frontier of medicine—stem cell research.

THE RIGHTS OF THE FAMILY AND PATIENTS TO ACCESS NEW THERAPIES

Traditionally, in the United States, the government has assumed the responsibility of funding medical research to drive the development of new therapies that reduce the suffering from chronic and acute disease and injury. The Federal government, at the direction of President Bush, has radically departed from this commitment to pursue one of the most promising areas of medical research that may affect every American family, when his personal view of religion interfered with this advancement. Embryonic stem cell research, specifically, has

From left: Robert Klein, Alan Trounson, Richard Murphy

been suppressed by religious ideology, despite our U.S. Constitution's promise of protection from laws dictated by religion. California has stepped up to the challenge of advancing the stem cell revolution in medical therapies.

INDUCED PLURIPOTENCY OR EMBRYONIC STEM CELL RESEARCH: THE GOLD STANDARD

In 2007, brilliant work by Dr. Yamanaka (originally with the Kyoto University in Japan and now relocating part time to the J. Gladstone Institutes in California) and Dr. Thompson of the University of Wisconsin (also relocating part time to California) identified techniques to convert adult somatic cells to stem cells apparently equivalent to embryonic stem cells, commonly called induced pluripotent stem cells (iPS). While these cells teach us new insights to pluripotency and they may have near term applications for toxicity testing on human cells, it may well be a decade before this technology can be competitive with embryonic stem cells (hESCs). The "artificial" pluripotent cells are derived by transducing genes active in embryonic stem cells but the presence of multiple copies of extra genes can produce unexpected and undesirable outcomes including cancer. It will take some time to address the concerns that must be answered before these new cells can be used for therapies. Despite these extraordinary challenges and risks, the Bush Administration has decided that these cells eliminate the need for embryonic stem cells. They would discard a decade of critical research knowledge on embryonic stem cells that has moved the scientific and medical community to the edge of the first proposed FDA human clinical trial, for acute paralysis, developed through the Reeve-Irvine Research Center at University of California, Irvine, in collaboration with the Geron Corporation. While these trials may take years to perfect, the knowledge developed to launch these human therapies represents an extraordinary value to every family and every patient with the hope of a future stem cell therapy. The breakthrough may actually come through other trials, but the Christopher Reeve trial will mark a milestone in the development of knowledge which will one day make the full range of stem cell therapies possible. The California agency will advance, subject to peer review, the medical understanding of pluripotency, while moving forward to meet its critical mandate to serve patients, who suffer every day, and wait for the earliest, safe and effective therapy to be developed.

CALIFORNIA: A NATIONAL AND GLOBAL LEADER

California has become the largest funding agency in the world for embryonic stem cell research, creating history in funding medical research, as the intellectual health care capital of the society, with long-term state bonds. The vision of the people of California, in approving the California Stem Cell Research and Cures Initiative (Proposition 71), positioned the state as the driving edge of the stem cell revolution in healthcare. Globally, California's performance under Proposition 71 has earned the state agency a world class leadership position, with California serving as a member of the International Stem Cell Forum on an equal membership standing

with 21 member nations. Within the United States, California's grant approvals in 2007 alone are approximately seven times the funding by the National Institutes of Health for embryonic stem cell research (all restricted to pre-August 9, 2001 cell lines). California's medical and ethical research standards, drawn up in collaboration with the National Academy of Sciences, have become an international model and the new "gold standard" for our nation.

ADVANCING THE MISSION

Proposition 71, its governing board, and the funding agency created by Prop 71 face a number of immediate challenges as the momentum of stem cell medical research funding increases including:

First, its initial strategic plan must be examined and strengthened as the new President of the agency, Dr. Alan Trounson, brings global scientific credentials and insights to broaden the strategic path while closing research gaps in the plan which are critical to implementing stem cell replacement therapies for cell therapies in conditions such as Parkinson's Disease, HIV/AIDS, diabetes and heart disease. As an example, strategic initiatives in immunology might broaden the feasible applications of existing adult stem cell therapies, by utilizing embryonic stem cells as a source of immune tolerant cell transplants. Adult stem cell therapies have raised survival rates for patients with leukemia or multiple myeloma (a bone cancer) from six percent to the 70% plus range; but, these therapies generally only reach the 40% of patient candidates for whom a sufficient immune system match can be found. By strategically focusing on the challenges of immunology to expand the reach of adult stem cell therapies, more lives may be saved when scientific breakthroughs in immunology are applied to the objective of immune tolerance of allogenic stem cells and/or to the possibility of immune system matches through SCNT (immune matched stem cells) breakthroughs.

Second, stretching the resources approved by the voters—to fund more research (over time)—by creating a revolving loan fund (to compliment the grant program) could have a dramatic impact on the range of therapeutic advances the agency can fund. The board has just begun phase two of the financial plan by studying how to implement the loan provisions of the initiative. Potentially, a loan program could recycle $1.0 – $1.5 billion—in the first 15-17 years of the agency's life—bringing the total effective resources to fund medical research up to the $4.5 billion range.

Third, the board and the agency need to launch a major public information program, including a specific focus on the upcoming human embryonic stem cell clinical trials. These clinical trials, over time, bring the possibility of remarkable medical advancement, but they also bring the potential for initial tragedies, despite the best safety procedures. Even with the benefit of extensive animal pre-clinical trials, setbacks may occur—particularly given the broad spectrum of therapies and chronic disease challenges. We must respect each patient's decision to take "managed and reasonable" risks that may redeem their futures or save their lives. Medical therapies for the patients in the trials and all future generations are dependent upon the courage of individual patients, if medicine is to advance. With a deep reverence for life, we must inform the California public and every patient about these risks and build the patience and understanding that will be critical elements of medical research risk tolerance. If we are to secure the path to therapeutic success, it will involve many attempts and many "trials". With patience, successful therapies will prove effective.

A HISTORIC OPPORTUNITY

We are all part of a community of patients and families who are dedicated to advancing medical therapy. We understand that research in one area may benefit many areas. Together we will succeed or fail. With a broad spectrum of research, we have a historic opportunity to advance a new frontier of medicine, to reduce human suffering, and to honor the California legacy of medical research, beginning with artificial human insulin from recombinant DNA, which saves my son's life every day.

Robert N. Klein, Chairman,
Independent Citizens Oversight Committee

INTERIM PRESIDENT'S LETTER: RICHARD A. MURPHY, PH.D.

When the history of CIRM is written, 2007 will be recorded as a year of transition and new beginnings. Milestones came in financing, science, and administration, and all represented major advancements in CIRM's journey to further stem cell research for the betterment of humankind.

The most important event occurred on May 16, when the California Supreme Court denied petitions from stem cell opponents to block funding for CIRM's research programs. That decision allowed California's Treasurer Bill Lockyer to sell the first traunch of state bonds, which will be the primary source of CIRM funding for the next ten years. Prior to this landmark ruling, CIRM's research programs had depended upon funds provided by generous philanthropists, some of whom purchased Bond Anticipation Notes, and an Institute-saving loan of $150 million from Governor Arnold Schwarzenegger.

CIRM used these monies to launch the world's most ambitious scientific effort to understand stem cell biology. In February and March, the ICOC approved funding of over $120 million for 103 research grants on human stem cells. Seventy-four grants went to California scientists just entering the field (SEED Grants) and 29 grants went to investigators already working in the field (Comprehensive Grants). In June, more than $50 million in funding was approved for shared laboratory facilities and for training courses in stem cell biology, and in December, $54 million was awarded to new investigators launching their careers in stem cell science.

CIRM's scientific leadership also changed. Dr. Zach Hall, CIRM's first president, retired from the Institute in April, and Dr. Arlene Chiu, CIRM's first Director of Scientific Programs, retired in October. Together with colleagues at CIRM and the ICOC, the governing board, Drs. Hall and Chiu built from scratch a remarkably comprehensive, high-quality scientific program that includes mechanisms for issuing requests for proposals based on the scientific needs of the stem cell field. Additionally, Drs. Hall and Chiu assembled and trained a remarkable group of talented staff who remain at CIRM to carry on their legacy with excellence, energy, and creativity.

At the same time, the ICOC developed operating procedures and created committees to establish working groups to oversee grants, standards, facilities, medical ethics, conflicts of interest, governance, and intellectual property. The governing board's efforts in establishing a national model for medical and ethical standards relied heavily on the leadership and collaboration of a taskforce of the National Academy of Sciences.

The future is equally bright, for the ICOC has chosen Dr. Alan Trounson as CIRM's new permanent president. Dr. Trounson, a pioneer in the field of invitro fertilization, is a world leader on stem cell biology. He brings to the Institute an international reputation for quality research contributions, significant experience in translating basic research into clinical applications, and an understanding of how non-profit and for-profit organizations can partner to accelerate progress in medical care and treatment. He is an inspired choice for CIRM's presidency, for he will no doubt lead the Institute into productive new avenues of inquiry that will further help realize CIRM's mission.

What a pleasure it has been for me to serve CIRM, first as a three-year member of the ICOC, and for the past half year, as the Institute's interim president. I leave with enormous enthusiasm for CIRM, convinced that this remarkable organization and the scientists it supports will lead California and the world to ever-changing frontiers in stem cell research.

I thank the ICOC and its chairman, Bob Klein, for the opportunity to be part of this exciting experiment in state funding of lifesaving scientific research. And I thank the visionary people of California who voted for Proposition 71. They appreciated, well before others, the potential of stem cell research for improving the lives of people suffering from incurable diseases and injury. The world is a better place because of CIRM. I look forward with great anticipation to monitoring its success and the success of the scientists and patients it serves.

Richard A. Murphy, Interim President

PRESIDENT'S LETTER: DR. ALAN O. TROUNSON, PH.D.

Advances in science can have an extraordinary impact on the quality of life for many people. Today it is calculated there are more than 4 million in vitro fertilization (IVF) children. For many couples, it has changed the despair of infertility to the joy of creating a family. The allure of embryonic stem cells grew from the seeds of IVF when it was shown that the simple undifferentiated cells from the inner cell mass of the 5-6 day old embryonic ball of 150-200 cells can be grown indefinitely in the laboratory and can be directed into any cell of the body (termed pluripotentiality).

This moment of the discovery of the potency of cells and their potential clinical application has enabled scientists to begin to explore the basic proposition that cell therapies are possible for a very broad range of disease pathologies and injuries in human regenerative medicine.

I am an optimist as a basic scientist, and believe we can demonstrate the clinical relevance of the discovery of embryonic stem cells. This will necessarily take some time even with the endeavours of the best researchers. The science will be exacting and not always predictable, and CIRM funding for basic sciences is critical to enable basic hypotheses to be properly tested. It is also very likely that this work may have spill-overs which may for example, further reveal the origins of metastatic cancer associated with loss of the normal regulatory processes of tissue formation and repair. This may assist in the design of new strategies to control tumor growth and the uncontrolled spread of cancers. All these facts are necessary to help us to comprehend what is needed to utilize the power of embryonic stem cells for tissue repair.

It is mandatory that we integrate the pipeline of basic stem cell discovery with the translational demands for safe and effective clinical applications. The clinic is already utilizing adult bone marrow stem cells for a number of applications and the benefits above and beyond those of hematology will be confirmed as time goes on. The introduction of smarter pluripotential cells into this pipeline will draw the new discoveries confirmed in preclinical models into the clinic. There are a number of candidate cell types that may be used for cell therapies, including umbilical cord cells, placental cells and reprogrammed adult stem cells. These are all worthy of study to determine their usefulness in regenerative medicine. While the gold standard for pluripotentiality is likely to remain the embryonic stem cell, we need to make sure we do not overlook other less obvious opportunities in the quest for effective therapeutic treatments.

The application of allogenic cell therapies requires that we address the innate ability of the immune system to protect us against invasion of foreign pathogens. Immune surveillance provides a safety net and a challenge for transplantation biology using foreign allogenic cells and tissues. I have long considered that we must engage immunologists in our quest to deliver embryonic stem cell therapies. In this regard I hope to encourage immunobiology to become an important collaborative partner to our initiative. Potential discoveries from this partnership may provide the leverage to address the difficulty of autoimmunity which is a challenging component of many of the diseases we want to treat.

In many respects we are in the phase of creating the "tools" we need to enable the innovative research and establish the complete pipeline of stem cell medicine. It is apparent that not only should we explore the spontaneous changes that occur to cells in the body and in the laboratory but we must have cells that report their changes so we can optimize their differentiation in experiments in the natural lineage directions we seek. It is also evident that small differences in the genome may affect outcomes for cell repair. The higher order epigenetic gene expression regulators, micro RNAs and

The education of the entire community of the potential and processes needed to implement stem cell therapies needs to be done in a coherent and sensible way.

micro-environments will govern the direction of cell commitment. We need the tools available to interrogate all these important features of cell biology. CIRM is already firmly establishing these capacities and we need to recognize the critical nature of these platforms.

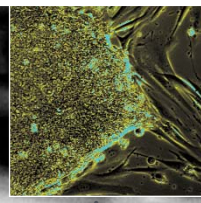
I think the disease groups being formed by CIRM to bring multidisciplinary integration into the aim for delivery of treatments for priority conditions is very important. These groups will help define the areas needing resources to be safe, effective and efficient.

The education of the entire community of the potential and processes needed to implement stem cell therapies needs to be done in a coherent and sensible way. I believe that the younger trainees supported by CIRM need to engage the younger population of the community. We must continue to seek the aid of patient support groups, advocates, politicians, media and their representatives in taking the message to the entire community. CIRM has already connected to the community through transparency in process, the presentation of disease profiles and encouragement of the community in the area of embryonic stem cells and associated technologies. This is one of the most valuable features of the outcome of Proposition 71. We need to preserve and extend this component of CIRM activities.

Finally I would like to see the leadership in California extend nationally and internationally to provide an affordable and useful therapy for a wide spectrum of diseases. Jointly funded endeavors with Californian scientists may reduce duplication and result in more expedious delivery of clinical treatments. The ability to preserve benefit and expand the critical mass can always be solved by sharing mutual contributions in the recovery of investments. I look forward to facilitating the opportunities provided by the citizens of California under Proposition 71.

Alan O. Trounson, President

▼ *Woman with Alzheimer's enjoying a hug at a day care program*



INDEPENDENT CITIZENS OVERSIGHT COMMITTEE: GOVERNING BOARD OF CIRM

The Independent Citizens Oversight Committee (ICOC) is the 29-member governing board for the Institute. The ICOC members are public officials, appointed on the basis of their experience earned in California's leading public universities, non-profit academic and research institutions, patient advocacy groups, and the biotechnology industry.

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President, Klein Financial Corporation

Vice Chair of the Governing Board
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Founder, Parkinson's Action Network

David Serrano Sewell, J.D.
Amyotrophic Lateral Sclerosis Association, National Multiple Sclerosis Society

Jeff Sheehy
Deputy Director for Communications UCSF AIDS Research Institute

Jonathan Shestack
Founder & Vice President, Cure Autism Now

Oswald Steward, Ph.D.
Chair and Director, Reeve, Irvine Research Center, University of California, Irvine

Janet S. Wright, M.D., F.A.C.C.
American College of Cardiology

Highlights and Achievements

The citizens of California along with numerous patient advocate and professional groups showed vision and courage when they supported Proposition 71, which created the California Institute for Regenerative Medicine (CIRM) to support stem cell research in California.

This has been a significant year for CIRM with highlights and achievements including:

- **In May 2007, under Attorney General Jerry Brown's leadership, the constitutional challenges to Proposition 71 came to an end** when the California Supreme Court declined to review two lower court decisions that unequivocally upheld the law. Legal efforts by stem cell opponents delayed the implementation of Proposition 71 but in the end, the will of the people prevailed.
- **In June, CIRM approved $50 million in grants for the development of new laboratory facilities** at 17 academic and non-profit research centers. Also, this summer, we held two sessions for CIRM Fellows who are funded by the training grants approved in 2006.
- **The careers of many promising stem cell scientists working in California received strong support from CIRM**, with a program inspired by Dr. Arlene Chiu and completed by Dr. Patricia Olsen, which approved more than $54 million in grants in December. CIRM has now approved $260 million in research, training, and facilities grant applications to 22 California institutions, with up to $262 million for the development of major research facilities to be approved in April 2008. Additional grant initiatives have received concept approval and will also be awarded in 2008.
- **In September, we announced that Dr. Alan Trounson**, a scientific pioneer in in vitro fertilization and stem cell research, will become the permanent president of CIRM in December. Dr. Trounson was formerly Director of the Immunology and Stem Cell Laboratories at Monash University in Australia. Dr. Richard A. Murphy, CIRM's interim president and the former president of the Salk Institute for Biological Studies, has agreed to continue with us through next February, to ensure an orderly leadership transition.
- **In October 2007, State Treasurer Lockyer brilliantly completed** the nation's first sale of stem cell research general obligation bonds, authorized by Proposition 71. The $250 million issue was over-subscribed, with more than 41 percent purchased by individual investors.

> After careful consideration of all of appellants' legal objections, we have no hesitation in concluding, in the exercise of our solemn duty to jealously guard the precious initiative power, that Proposition 71 suffers from no constitutional or other legal infirmity.
>
> — Court of Appeal: California Family Bioethics Council v. California Institute for Regenerative Medicine (2007) 147 Cal.App.4th 1319

CIRM believes that the commercial sector can make critical contributions towards accomplishing the Institute's mission and realizing the vision of Proposition 71. To enable the participation of the commercial sector in CIRM-sponsored research initiatives, CIRM is developing a Grants Administration Policy for For-Profit Organizations. We also presented a final version of our intellectual property policies for for-profit grant recipients to our governing board in December. After the ICOC's final approval, the regulations will undergo review by the Office of Administrative Law ("OAL"), with approval anticipated in early 2008.

ICOC: Spotlights on Disease

CANCER STEM CELLS

Cancer is a disease which generally describes cells which have mutated and multiply often formulating tumors which can present life threatening illness and cause death. There are many different forms of cancer which attack different organs and bodily systems.

The prevalence of cancer effects one out of every two men; and one out of every three women at sometime in their lifetime. Over 500,000 people die each year from some form of cancer—while millions more live with the diagnosis.

In addition to the etiology of childhood cancers, we also believe adult stem cells can mutate due to toxins in our environment (e.g., food, air, chemical exposure, etc.) and the mutating cells can accumulate and create tumors over time. As we age the efficiency of our bodily cell renewal processes may be diminished and mutations can increase. As an example, adults need to replenish more than 3 billion blood cells daily. When mutations occur, cancer cells can uncouple normal cell production and multiply.

HOW DO WE CURRENTLY UNDERSTAND AND TREAT CANCER?

Scientists have been conducting research on cancer for more than forty years. Cancer patients have seen an increased chance of survival and cure for some forms of cancer during this time. Surgery, medications and chemotherapy are often used to treat various cancers. Increasingly as our understanding of cell biology has advanced, the treatments available have become more sophisticated and in some cases more effective.

In addition to medical treatments, patients often incorporate lifestyle changes (e.g., diet, exercise, smoking cessation) as adjunct therapy to medical treatment. Addressing one's overall health can play a powerful role in fighting cancer.

WHAT IS IT LIKE TO LIVE WITH CANCER?

Robert Ferber, a cancer survivor, describes his experience with a virulent form of chronic myeloid leukemia (CML). After chemotherapy did not work, he began the tedious and difficult process of looking for a donor. When he finally found a donor he was told his general health had deteriorated to the point of making him too risky of a patient for the surgery involved. He was finally enrolled in an experimental stem cell therapy trial in an effort to make him strong enough to have surgery.

After three short months his health improved far beyond what had been expected and he was able to forego surgery altogether. After 8 years of sustained good health, he takes one pill a day which suppresses the enzyme that triggered the growth of his leukemia. He has no side effects from the drug he takes and his quality of life has been restored.

For too many other cancer patients, this outcome is still a dream, not a reality.

Many people are able to recover from various kinds of cancer through current treatment choices. However, for many more patients the types of cancer are far more resistant to treatment and the morbidity and mortality risks continue to be extremely serious and life threatening.

HOW MIGHT STEM CELL RESEARCH HELP US BETTER UNDERSTAND AND TREAT CANCER?

Our knowledge about stem cells is at the heart of the next generation of cancer treatments. Since cancer is itself based on abnormal cell production, cancer cures depend upon our ability to change those biological processes. As tumors are currently removed or treated, many times the cancer stem cells themselves do not disappear and can go on to create new cancers or form more tumors over time. Researchers know that the body has 'niches' which foster cancers metastasizing ("niche" research). Stem cell research is offering the opportunity to explore mechanisms in cell biology to kill the cancerous stem cells altogether rather than just the tumor itself ("targeted pathways" research).

In addition stem cell research is allowing very narrow exploration of cell biology which may well lead to powerful knowledge which can inform many other types of cancer research. One such example is a particularly deadly form of brain cancer called "glioblastoma" where researchers observed that while the immune system typically does not appear to effectively fight cancer like it does foreign pathogens (such as viruses), in some of these particular type of cancer patients late in the course of their illness their immune systems rally and produce new supplies of T cells—those cells which do the work of the immune system—thus providing a renewed attempt by the body to fight against the disease. These researchers have focused new research activity on this phenomenon and are currently designing exquisitely complex knowledge about this aspect of brain cell functions to measure various pathways of the brain using microfluidics integrated chips in the labs with stem cells to build knowledge about the interaction of the immune system's T cells with these cancer stem cells.

We are all part of a community of patients and families who are dedicated to advancing medical therapy. We understand that research in one area may benefit many areas. Together we will succeed or fail. With a broad spectrum of research, we have a historic opportunity to advance a new frontier of medicine, to reduce human suffering, and to honor the California legacy of medical research, beginning with artificial human insulin from recombinant DNA, which saves my son's life every day.

— **Robert N. Klein**, Chairman of the Governing Board

Such knowledge could lead to the possibility of finding new ways to enlist the body's own natural disease fighting processes to assist in the fight against cancer.

The reseeding of tumors observed in research is driving us to study stem cell self renewal in normal cell development in order to learn how to disable the ability of cancer stem cells to self renew. This type of research requires partnerships among a broad range of research disciplines (e.g., biology, medicine, physics, engineering, etc.) to collaborate in a conscious effort to focus such research to be successful in the near future. Scientists expect that within a few years we will know much more about how these stem cells, normal as well as abnormal, function and we will be perfecting yet more ways to intervene using stem cell therapies to offer effective treatment and even cures for various cancers.

CEREBRAL PALSY

Cerebral Palsy refers to a number of chronic, non-progressive, neurological disorders that permanently affect body movement and muscle coordination and can be associated with mental impairment. Even though cerebral palsy affects muscle movement, it isn't caused by problems in the muscles or nerves. It is caused by abnormalities in parts of the brain that control muscle movements. It typically occurs during the critical phase of brain development in the fetus, around birth or during infancy.

The early signs of cerebral palsy usually appear before a child reaches 3 years of age. The most common signs include lack of muscle coordination when performing voluntary movements (ataxia); stiff or tight muscles and exaggerated reflexes (spasticity).

Though there is increasing neonatology research and medical treatment, premature birth is the major cause of the increasing incidence of Cerebral Palsy in the United States. There are approximately 800,000 affected patients in the United States with the annual cost of care per year approaching $30 billion.

HOW DO WE CURRENTLY UNDERSTAND AND TREAT CEREBRAL PALSY?

Cerebral Palsy is not curable, but training and therapy can help improve function. Many children go on to enjoy near-normal adult lives if their disabilities are properly managed. In general, the earlier treatment begins the better chance children have of overcoming developmental disabilities or learning new ways to accomplish the tasks that challenge them.

Treatment can include both physical and occupational therapy, speech therapy, drugs to control seizures, relax muscle spasms, and alleviate pain. Other therapies include surgery to correct anatomical abnormalities or release tight muscles; braces and other orthotic devices.

HOW MIGHT STEM CELL RESEARCH HELP US BETTER UNDERSTAND AND TREAT CEREBRAL PALSY?

There have been significant barriers to research in this area including a lack of public awareness and inadequate National Institutes of Health (NIH) research support. Researchers in the field continue to push the clinical envelopes developing tools such as neurological MRI compatible incubators for very pre-term infants (as early as one week of age and weighing less than 1lb) that provide ability to diagnosis babies at risk. Stem cell biology is one way researchers are trying to strategize and contribute to the knowledge of this disorder and create new therapies.

Fresh approaches in Cerebral Palsy research, including neural stem cell biology research, will contribute to a better understanding of Cerebral Palsy as well as its diagnosis and treatment. With better understanding of the transcription factors of genes, scientists are creating new hypothesis around the factors that inhibit proper development. Other therapeutic strategies include creation of neuro-protective remedies to prevent damage, as well as methods to promote repairs.

Stem cell research enables researchers to identify parallels with related diseases such as multiple sclerosis (MS) which allows researchers to take some of the insights from this disease and apply them to Cerebral Palsy. This cross fertilization among various fields within stem cell research helps increase the use of translational research—which without make prospects for advances bleak. More stem cell research advances are critical.

The pace at which this organization has moved, the rate at which its brought on talent, the degree to which its drawn talent from around the world to this wonderful state for a cause that we so sincerely believe in is just—should be commended. I'm very proud to be on this committee... and most importantly, I'm just thrilled for the patients who will so greatly benefit from what you're doing.

— **Myrtle Potter**, Citizens Financial Accountability Oversight Committee Member

WHAT IS IT LIKE TO LIVE WITH CEREBRAL PALSY?

When asked what it's like having Cerebral Palsy, **Ben Kaplan** replies, "I've had it my whole life so my question is what is it like not to have Cerebral Palsy." Ben and his twin brother Oliver were born 10 weeks premature. Ben suffered a brain hemorrhage (i.e. stroke) that resulted in Cerebral Palsy and hydrocephalus leaving Ben with paralysis on the left side of his body.

Living with Cerebral Palsy and being paralyzed on his left side has caused Ben problems most people don't even think about. This includes basic tasks such as tying his shoes, fastening clothing, or even using eating utensils. Ben typically has problems with balance and vision as well as some mild learning disabilities. As a child he couldn't play sports and instead, after school, he spent 2 hours a day 3 times a week with a physical and occupation therapist. Ben had to wear a splint on his left hand and a brace on his left leg and a plastic insert in his shoe to keep his hand and legs straight. He describes his childhood as being very lonely and frustrating.

However, Ben does not let these impediments stop him from prevailing and reaching his goals. Ben earned a B.A. degree in Mass Communications with a concentration in Media Management. He has interned in radio programming and in public relations providing strategic support to consumer and non-profit clients. But Cerebral Palsy continues to cause Ben some of his biggest barriers—long-term paid employment in the work force.

Ben is a huge advocate of stem cell research. He and his twin brother Oliver were involved in the Proposition 71 campaign in 2004. Ben is even the publisher of Ben's Stem Cell News, a blog on stem cell research containing summaries of over 1,700 news stories about stem cell science and research advancements. Ben says that Cerebral Palsy has determined his destiny, but hopes that stem cell research will help him one day regain mobility in his left side. Even a small improvement can help his mobility and allow him to be more independent and have a better quality of life.

CARDIOVASCULAR DISEASE

Cardiovascular disease refers to the full range of medical conditions associated with the heart. These conditions include particular problems with the valves of the heart (e.g., valvular heart disease), coronary arterial plaque, problems with the electrical system of the heart, and conditions resulting from destroyed heart muscle itself.

HOW DO WE CURRENTLY UNDERSTAND CARDIOVASCULAR DISEASE AND TREAT IT?

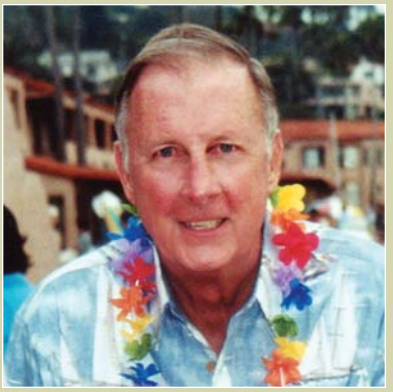
Many heart conditions are treated through a careful use of medications, often in conjunction with lifestyle changes (e.g., diet, exercise, stress management, etc.). In addition, the current array of treatment options associated with this panoply of diseases and diagnoses of heart problems can be generally broken down as follows:

Valve dysfunctions are treated largely through the use of prosthetic heart valves, coronary arterial plaque is often treated by angioplasty, stents and bypass surgery, electrical heart conditions are often treated with pacemakers and defibrillators, and those with conditions arising from destroyed heart muscle face the largest gap in effective treatments currently since there is no treatment standard for restoring dead heart tissue and medications are of limited benefit.

Losing heart muscle tissue is often a consequence of a heart attack and, when severe it can lead to congestive heart failure. Heart tissue, unlike some other organ systems does not appear to have a way of repairing itself over time. Thus remodeling interventions are not typically available for heart patients.

HOW MIGHT STEM CELL RESEARCH HELP US BETTER UNDERSTAND AND TREAT CARDIOVASCULAR DISEASE?

A major aspect of current research efforts involving stem cells and heart disease are focused on exploring if stem cells can actually assist in the rejuvenation and repair of dead heart muscle tissue. A recent "meta-analysis" of over ten research projects shows some level of improvement in heart function in all the studies involved. Overall, the size of damage has been reduced and consequent level



WHAT IS IT LIKE TO LIVE WITH CARDIOVASCULAR DISEASE?

Dick Thomas is a heart patient who has struggled with the consequences of heart disease for several years. His conditions include electrical problems which were addressed with surgery. Overall, his level of heart function is dangerously low and he has been diagnosed with congestive heart failure. Only a heart transplant appears as a possible treatment solution but this option has been ruled out as a result of his overall health and deteriorating heart muscle.

Stem cell therapy offers the only possible hope for him at the moment and the question is if the therapies can be developed in time for his benefit.

of heart function is increased as a consequence of the use of stem cell therapy.

Some types of research are based on actual injection of stem cells into the heart tissue and measuring scarring and proportionate damage as a result. How the improvements observed occur is less well understood and will require further study and refinement.

The active stem cells of the heart, called "cardiomyocytes," are the focus of on-going stem cell research. It has been estimated that a patient can lose as many as one million cardiomyocytes during a heart attack. Researchers are studying induction, replication, delivery and integrations functions of cardiomyocytes in the heart in an effort to identify their function and biological processes. Embryonic stem cell research is studying the earliest embryonic signals which lead to the creation of cardiomyocytes looking for molecules which induce cell development into specific pathways to develop, as an example, ventricular cardiomyocytes.

To the extent this research leads to more specific knowledge, the hope is to one day offer patients with heart disease new ways to rebuild heart tissue and restore heart function and quality of life.

▼ *Group of men and women with spinal cord injuries*

PERIPHERAL VASCULAR DISEASE

Peripheral vascular disease, or peripheral arterial disease, refers to any disease or disorder of the circulatory system outside of the brain and heart, and generally is a result of inadequate blood flow to the legs, arms, stomach or kidneys. Typically, blood flow is restricted because the arteries are clogged and narrowed because of fatty deposits, or plaque.

People who smoke, have diabetes, high cholesterol, high blood pressure, or are older, are at greater risk for this disease. Peripheral vascular disease puts people at significantly greater risk of stroke or heart attack. It is estimated that peripheral vascular disease effects about 10 million people in the United States and is a leading cause of disability among people older than 50. This number is expected to grow as the population ages.

HOW DO WE CURRENTLY UNDERSTAND AND TREAT PERIPHERAL VASCULAR DISEASE?

If untreated, peripheral vascular disease can develop complications including permanent numbness, weakness, and aching pain in the legs or feet. An even more serious condition such as gangrene—the result of a body part not getting enough blood—can cause tissues to die and begin to decay. While there are currently several treatment options, for patients with more advanced cases or who suffer from other complicating diseases such as diabetes, the options are often fewer and less effective.

For some patients, lifestyle changes such as stopping smoking or increasing exercise are effective. Medications such as cholesterol lowering drugs and aspirin are also used to treat peripheral vascular disease. For more advanced cases, there are surgical revascularization techniques such as balloon angioplasty and newer technologies such as stents that create a larger space for blood flow in the artery. Balloon angioplasty uses a surgical balloon to opens clogged arteries and can be effective for certain types of blockages, but is often not effective when longer sections of blood vessels are blocked or the disease is more complex. Many different types of stents, as well as devices that shave the plaque from the artery walls and laser devices that can vaporize plaque are also used to treat peripheral vascular disease.

Some patients have such advanced cases of peripheral vascular disease that these surgical techniques fail. And often patients with peripheral vascular disease have complications such as cardiovascular disease or diabetes that put them at risk for surgery. When that happens, limb amputation is a last resort.

HOW MIGHT STEM CELL RESEARCH HELP US BETTER UNDERSTAND AND TREAT PERIPHERAL VASCULAR DISEASE?

Therapeutic angiogenesis, or the ability to grow new, healthy blood vessels, is an active and promising area of research for peripheral vascular disease.

In this area of study, adult stem cells from bone marrow, peripheral blood or cord blood can be applied to areas of injured tissue and poor blood flow to enhance new blood vessel development. Unlike embryonic stem cells, adult stem cells do not become new tissue; rather, they have been shown to repair damaged or diseased tissue by stimulating new blood vessel growth and increasing blood flow. Embryonic stem cells hold more promise for replenishing more severely damaged tissues. Clinical trials using adult stem cells are being developed to help grow new blood vessels not only in diseased limbs, but also injured hearts and eyes.

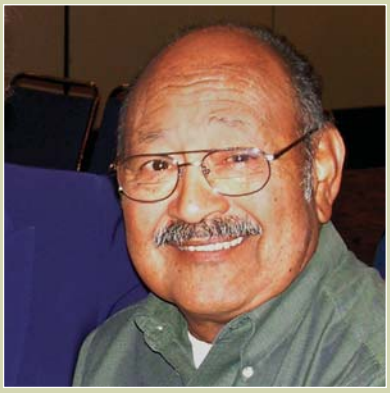
If proven successful, these stem cell therapies can make amputation a thing of the past for patients with peripheral vascular disease.

We have hope for the promise of incredible advances in medicine, hope for the eventual end of the suffering from diseases like Alzheimer's, Parkinson's, cancer and multiple sclerosis, and hope for the people who love someone with one of those terrible diseases. I have met many people in California and around the world that have diseases like that, and they could all be helped with this important research. And this is why we are not waiting for anyone to do it for us. We are creating the action right here in California. I also want to offer my deepest gratitude to the scientists and to the doctors… they're opening up possibilities that a few years ago we could have only imagined. So they are our newest action heroes, and I am looking forward to what they can achieve.

— **Governor Arnold Schwarzenegger**, February 16, 2007 (ICOC meeting awarding SEED Grants)

WHAT IS IT LIKE TO LIVE WITH PERIPHERAL VASCULAR DISEASE?

Someone in the early stages of this disease may experience no symptoms. As the disease becomes more advanced, symptoms include tightness or aching in calf, thigh, or buttock when walking, or numbness, fatigue, or burning sensation. Sometimes, patients may experience foot pain or non-healing sores on their legs. Inability to walk far, chronic pain, and in extreme cases, amputation, all contribute to a significantly decreased quality of life. In addition to heart attack and stroke, people with peripheral vascular disease are at risk for losing a limb and even death.



Dick Martinez, a retired Master Sergeant from the U.S. Army, has lived with diabetes for almost twenty years. He describes the effects of peripheral vascular disease and diabetes as "Terrible". His circulation, eyes, and kidneys have all been impaired. The 68-year-old Colorado native has had multiple surgeries including a corneal transplant and six-way bypass. Dick has also lost every toe on his right foot due to complications from diabetes. His motivation to find a cure is not for himself, but for his wife's 9-year-old granddaughter, a youngster also suffering from diabetes who must receive three shots of insulin daily. He hopes she will one day see a cure from this challenging chronic illness. "Those of us with diabetes need research to cure it." He questions if it is worse to do stem cell research or see a nine year old girl die from diabetes. "You don't need to be a scientist to know the answer to this. Medicine is one of the most important things we have in this world—it is our job to find cures and stem cell research provides such hope."

Subcommittees and Working Groups

The ICOC members' commitment to the California voters' mandate and CIRM's mission continue to be nothing short of remarkable and visionary. Many members have dedicated their lives to biomedical research and are responsible for numerous achievements in their own right. The ICOC's governance and oversight of the agency has led to the approval of almost $260 million, thus catapulting California as a leader across the world for embryonic stem cell research.

SUBCOMMITTEES

NEW ICOC SUBCOMMITTEE AND TASK FORCE

In October 2007, the ICOC approved the formation of a Finance Subcommittee and a BioTech Loan Program Taskforce. The Finance Subcommittee, chaired by Michael Goldberg, will develop and provide guidance on policies and strategies for CIRM bond financing, a CIRM loan program and the ongoing analysis of CIRM's economic impact.

The ICOC Biotech Loan Program Task Force, chaired by Duane Roth, will explore the feasibility and development of a CIRM loan program targeted toward for-profit companies. The loan program will serve two goals: 1) to fund research and carry further development of discoveries through the "valley of death" period before venture capital funding is made available, and 2) generate cash income for CIRM that could be reinvested in additional loans and further CIRM grant funding. The Task Force will be exploring ways for CIRM to serve as the critical link in the lifecycle. The outcome of its work will support California's academic and industrial biotechnology capabilities and also the global collaborative effort toward development of drugs and therapies for patients around the world.

Other ICOC Subcommittees can be found in the Members' List section of the annual report.

WORKING GROUPS

CIRM WORKING GROUPS

To aid CIRM in its work and to provide recommendations to the ICOC, Prop. 71 provides for three advisory Working Groups, each composed of patient advocates from the ICOC board and outstanding scientific and medical experts from around the world. The focus of the three working groups is: 1) research grant review and funding, 2) facility grant review and funding, and 3) establishment and oversight of medical and ethical standards.

1. Scientific and Medical Research Funding Working Group ("Grants Working Group"). Chair: Stuart Orkin; Vice Chairs: Joan Samuelson and Jeff Sheehy (ALT).
2. Scientific and Medical Accountability Standards Working Group ("Standards Working Group"). Co-Chairs: Bernard Lo and Sherry Lansing.
3. Scientific and Medical Research Facilities Working Group ("Facilities Working Group"). Chair: David Lichtenger; Vice Chair: David Serrano Sewell.

■ SCIENTIFIC AND MEDICAL RESEARCH FUNDING WORKING GROUP

CIRM's Scientific and Medical Research Funding (Grants) Working Group (GWG) is comprised of 15 nationally prominent stem cell scientists from outside California, as well as seven patient advocates from the ICOC. During 2007, the Grants Working Group met four times for reviews of the following: Comprehensive Research Grants, Shared Research Laboratory Grants and Stem Cell Techniques Course, New Faculty Awards, and the Major Facilities Grant Program. The GWG reviewed 168 applications and made recommendations to the ICOC, thereby making important contributions to the development of stem cell research in California. Applications reviewed by the GWG included those intended to "jump start" human embryonic stem cell research in California by funding work on human embryonic stem cells by established investigators, providing core labs for the growth, maintenance and conduct of human embryonic stem cell research as well as training researchers how to work with human

embryonic stem cells. The GWG also reviewed and recommended for funding promising M.D. and Ph.D. scientists in the critical early stages of their careers as independent investigators and faculty members in stem cell research. Finally the GWG participated in the evaluation of the Major Facilities Grant Program that will fund the establishment of CIRM facilities to support stem cell research programs across the State. They reviewed the scientific merit of the applicant's stem cell research program and its relationship to the proposed facility.

■ SCIENTIFIC AND MEDICAL RESEARCH FACILITIES WORKING GROUP

In 2007, the Scientific and Medical Research Facilities Working Group (FWG) began its review of proposed capital funding allocations. Proposition 71 allows up to $300 million in bond funds to be used for capital (construction) needs in support of stem cell research. The initiative also establishes the functions of the FWG with its primary focus being the technical assessment of those applications that have facilities-related funding. Based on these assessments, the FWG makes recommendations for funding to the ICOC.

The initial capital program, the Shared Research Laboratory and Stem Cell Techniques Course, provided funds for renovations and equipment to establish shared laboratories that are free of federal NIH funding. The shared laboratories will allow both institutional based and other researchers in the state to conduct hESC research at these sites without federal restrictions. In June 2007, the ICOC approved funding for 17 shared research laboratory grants, with six of these including funding to conduct Stem Cell Techniques courses. Over $50 million in capital, equipment and operating funding was ultimately approved by the ICOC for the proposed shared laboratories and courses.

In the summer of 2007, the FWG initiated a substantial outreach effort in preparation of the Major Facilities Grant Program. The program will allocate up to $262 million in capital funds for construction and alteration of stem cell facilities

▼ *Two young friends—both have Type I diabetes*

that would be available for (a) basic and discovery research, (b) preclinical (translational) research and (c) preclinical development and clinical research at academic and not-for-profit organizations throughout the state. The FWG held public meetings to solicit input from the general public and from potential applicants on these grants. From these meetings came the recommendation by the FWG of a two-step review process that would provide for Grants Working Group review and ICOC approval of the scientific merit of the applications with successful applicants invited to submit facilities proposals. At the August 2007 meeting, the ICOC approved the recommendations from the FWG on the preferred review process and evaluation criteria to be used in assessing these grants.

The FWG will continue its work on the Major Facilities Grant program into 2008. The ICOC is expected to make its decisions on the scientific merit of applicants at a meeting in January 2008, with FWG technical review to occur in March 2008. The criteria approved by the ICOC include value, leverage, urgency, shared resources and functionality. The ICOC is expected to take final action on funding for this program at its April 2008 meeting.

SCIENTIFIC AND MEDICAL ACCOUNTABILITY STANDARDS WORKING GROUP

All CIRM-funded research is governed by the institute's Scientific and Medical Accountability Standards (MES) regulations which became state law in October 2006. They are the most comprehensive regulations governing stem cell science and are designed to ensure research is conducted according to the highest ethical standards. The MES regulations incorporate existing state and national rules governing the conduct of research and also contain innovative new requirements including:

- Expanded review and oversight of research;
- Enhanced informed consent for research donors;
- Assurances that research materials are ethically derived (sourced);
- Policies to ensure research participants have access to any required medical care.

A detailed description of these requirements was published by CIRM in the May issue of *PLoS Medicine*; see http://medicine.plosjournals.org/archive/1549-1676/4/5/pdf/10.1371_journal.pmed.0040114-L.pdf.

The ICOC's approval of the SEED and Comprehensive grant programs in early 2007 created a dramatic increase in institutional review and oversight obligations. Prior to this time, review and oversight was limited to the training grants programs. This new funding greatly expanded the number and scope of studies subject to the MES review and oversight requirements. Notable areas of expansion include experiments to derive new stem cell lines, use of animals in basic research and other activities requiring donation of cells or tissue.

PROMOTING EVIDENCE-BASED POLICY RESEARCH

Given these expanded review requirements combined with the recent enactment of the regulations, CIRM initiated an initiative to assess the effectiveness of the MES Regulations through an evidence-based evaluation process. Such a process is essential in a rapidly evolving field such as stem cell research. Evaluation can serve to identify challenging compliance issues among the regulated community, refine best practices, promote consistency, and create sustainable feedback mechanisms for policy development.

FROM RESEARCH TO ACTION

Based on knowledge gained from the application of the MES regulations, the Standards Working Group recommended and the ICOC approved amendments in August 2007. These amendments are designed facilitate the use of human somatic cells in research. The proposed amendments were opened for formal public comment in October 2007 and are anticipated to be finalized in early 2008.

CIRM Peer Review

CIRM's Scientific and Medical Research Funding Working Group (the "Grants Working Group") is critical to the agency's success. Proposition 71 established the Grants Working Group to conduct a scientific and programmatic review of grant applications for CIRM funding.

The Grants Working Group is comprised of 15 scientists and physician-scientists and seven patient advocates from the ICOC, along with the Chairperson of the ICOC. CIRM developed policies and procedures for the Grants Working Group based on the recommendations of the National Academy of Sciences, which convened an extraordinary meeting in Irvine in December 2004 to examine "best practices" for CIRM. For example, to ensure that the working group's recommendations are protected against even the appearance of a conflict, all of the scientific members of the working group are from outside of California. They are therefore ineligible to receive CIRM funding. In addition, CIRM policies require working group members to disclose their financial interests and to recuse themselves when they have a financial, personal, or professional conflict of interest in an application. With the help of the National Academy of Sciences, CIRM's peer review process has become a gold standard for the scientific evaluation of grant applications.

Although some critics have complained that CIRM's peer review is conducted in closed session, this process is well-established and is essential to ensuring a full and frank evaluation of grant applications and to achieving CIRM's mission—to fund the best science with the hope of discovering therapies and cures to treat chronic disease and injury. The Presidents of both the Institute of Medicine and the National Academy of Sciences recently confirmed the wisdom of CIRM's Peer Review process and procedures:

"The process of peer review is a well-established method to judge the merits of proposals for scientific research and to evaluate papers for publication in scientific journals. Scientific peer review has long been a feature of decision making at key governmental funding agencies, such as the National Science Foundation and the National Institutes of Health, as well as at many other government agencies and private foundations that support research. In virtually all cases, including the leading federal agencies just mentioned, evaluations of the strengths and weaknesses of specific proposals are carried out in sessions that are closed to the public. We believe that it is valuable and preferable to hold such peer-review discussions of the scientific merit of specific proposals in a setting that encourages candor and the free give and take among reviewers, and this cannot be optimally achieved in a public forum. As we understand the procedures you have established to conduct peer review discussions at the California Institute for Regenerative Medicine, they are well within the accepted norms and standards for scientific review."

— **Harvey V. Fineberg, M.D., Ph.D.**, President, Institute of Medicine; **Ralph J. Cicerone, Ph.D.**, President, National Academy of Sciences

We believe that it is valuable and preferable to hold such peer-review discussions of the scientific merit of specific proposals in a setting that encourages candor and the free give and take among reviewers, and this cannot be optimally achieved in a public forum.

Disease Team Initiative

The CIRM seeks to stimulate the development of therapies, cures and diagnostics based on human stem cell research in California. To fulfill this ambitious mission, the CIRM's 2006 Scientific Strategic Plan defined the specific goals of the Institute and established a detailed blueprint for achieving these goals.

Several funding programs targeting different aspects of biomedical research were proposed, among them a "Disease Team Initiative" that would support teams composed of basic, translational and clinical scientists working synergistically to develop therapies and diagnostics for specific disease targets. Because the majority of today's active scientists have not been engaged in such team efforts, establishing effective teams of researchers to accelerate the mission of the CIRM was recognized from its inception as a process that would require comprehensive analysis and planning.

The CIRM's Disease Team Initiative would support teams composed of basic, translational and clinical scientists working together to develop therapies and diagnostics for specific diseases.

The Disease Team Initiative is intended to encourage novel team research models to jump-start the development of therapies based on stem cells. The Disease Team Initiative will complement other CIRM programs that are already in place (e.g. Comprehensive Research and SEED grants, the Training Program, New Faculty Awards) or that are planned to focus on specific stages in the pathway to stem cell-based therapies and diagnostics, such as the initiatives for Translational Research, Preclinical Product Development, and Clinical Investigation.

While it is now recognized that pluripotent stem cells have the potential to play a role in the development of treatments and diagnostics for chronic disease and serious injury, very few stem cell-based therapies have progressed into clinical testing or clinical practice. In part, this is because stem cell research is an emerging field. The purpose of the CIRM Disease Team Initiative is to explore a new method of integrating and organizing the highest quality basic, translational and clinical stem cell research with the specific aim of producing a therapy or diagnostic for a particular disease or serious injury as quickly as may be possible. This approach will require innovative team research models such as requiring active team management and emphasizing defined milestones to better support and to accelerate admittedly high-risk research efforts that can accelerate the development of stem cell-based treatments. The Disease Team Initiative has three parts: a Workshop (held July, 2007; report available separately at http://www.cirm.ca.gov/pub/pdf/DTW_Report.pdf), Planning Awards, and the Disease Team Research Awards. Because active stem cell researcher teams will require considerable thought to plan and staff such disease team efforts, this Disease Team Planning Award (RFA 07-04) will support up to six months of planning and proposal development for the Disease Team Research Awards.

The CIRM's Disease Team Initiative would support teams composed of basic, translational and clinical scientists working together to develop therapies and diagnostics for specific diseases. The Disease Team Initiative is meant to complement other CIRM programs that support specific stages in the pathway to stem cell based therapies and diagnostics, such as the initiatives for Translational

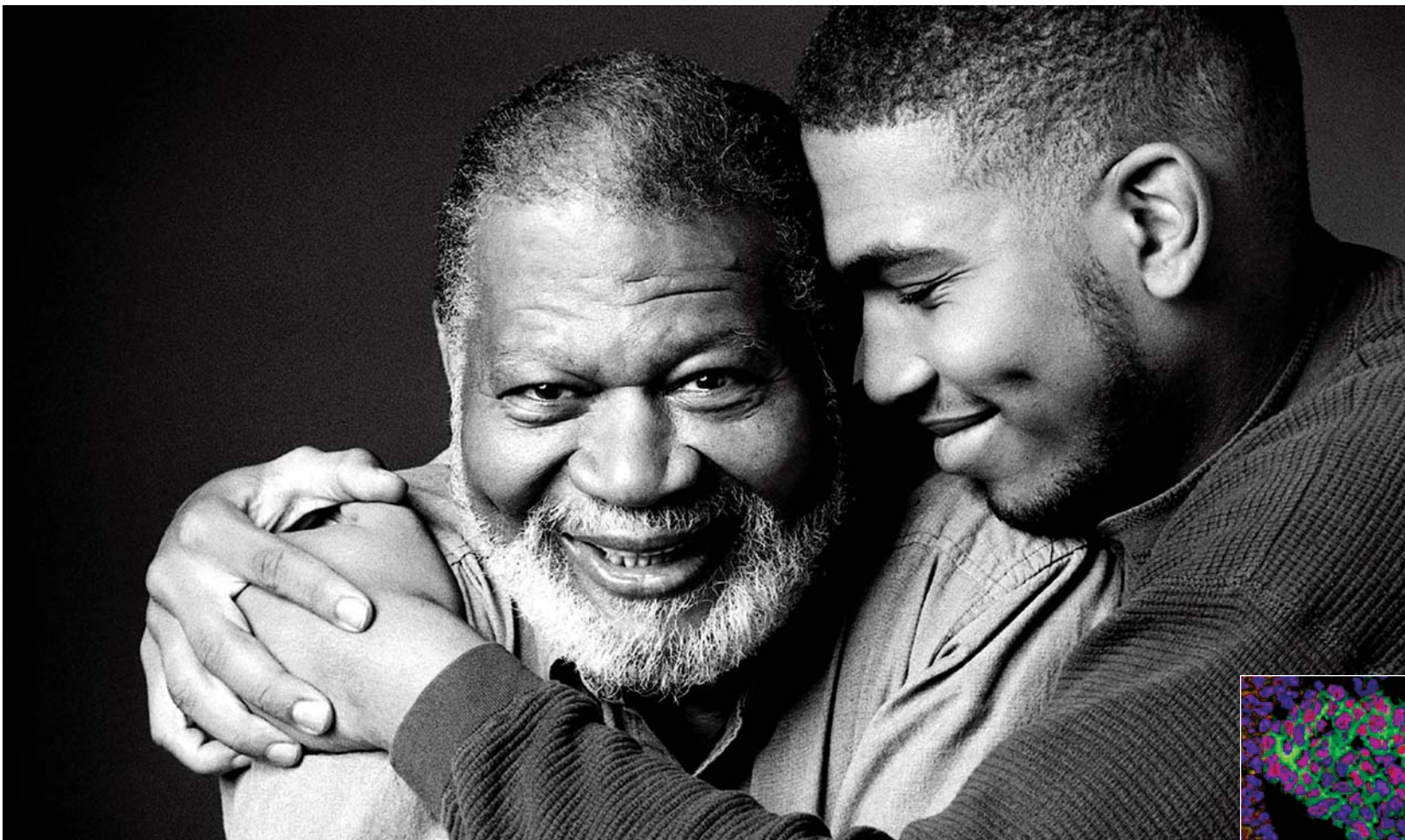
Research, Preclinical Product Development, and Clinical Investigation. Participants considered how to best support teams of researchers translating human stem cell therapies and diagnostics to the clinic.

CIRM anticipates a call for applications for the multi-year Disease Team Research Award (the subject of a future RFA) following this planning cycle. CIRM believes that supporting the planning process will strengthen the pool of applications for subsequent Disease Team Research Awards, by allowing the teams to consider key strategic and operational issues faced when assembling a multidisciplinary team. Upon completion of a Planning Award, recipients will be required to submit a Final Progress Report to CIRM. The ICOC has approved total funding of $1.1 million for the Disease Team Planning Awards. Each Planning Award will provide one-time only support for planning, organization of teams and initial development of a Disease Team Research Award proposal targeting a broad range of diseases and injuries.

The Disease Team Initiative will consider multiple roles for human stem cells in the development of therapies, including but not limited to: transplantation and integration, mobilizing endogenous cells, modifying the immune system, acting as delivery vehicles, and serving as disease models for drug screening and development (in cases in which no clinically relevant disease model exists to date). CIRM will support research using the full spectrum of stem cell types and experimental approaches, including human embryonic stem cells, induced pluripotent stem cells (iPS cells) as well as stem cells from adults, cord blood and other sources. Preference will be given to approaches that are not fundable by the federal government.

— by **Floyd Bloom, M.D.**, ICOC member and former Editor-in-Chief of *Science*

▼ *Alzheimer's patient with his son*



Grants Approved and Awarded Funding

The generous financial commitment of the California public has allowed CIRM to fund the best science at world class institutions right here in California. We want to ensure that California continues as a leader for stem cell and regenerative medicine and continues to break new ground in this exciting new scientific frontier.

In February 2007, the ICOC completed its review of the Leon J. Thal SEED Grant applications. These grants were named in honor of the late Leon J. Thal, M.D., one of the world's leading experts on Alzheimer's disease. Dr. Thal served as a patient advocate member of the CIRM's governing board, the ICOC. Nearly $45 million was approved, to 72 scientists at 20 institutions. Scientific Excellence through Exploration and Development (SEED) Grants were intended to bring new ideas and new investigators into the field of human embryonic stem cell (hESC) research, and offer an opportunity for investigators to carry out studies that may yield preliminary data or proof-of-principle results that could then be extended to full scale investigations.

The second type of program funds the Comprehensive Research Grant Program. This program will support mature ongoing studies on human embryonic stem cells by scientists with a record of success in this field. In March 2007, the ICOC approved 29 grants totaling $75.7 million in funds for established scientists at 12 non-profit and academic institutions.

The third program within our initiative is the CIRM Shared Research Laboratory Grant. The grants will fund dedicated laboratory space for the culture of human embryonic stem cells (hESCs), particularly those that fall outside federal guidelines. (Current federal policy prohibits research involving hESCs isolated after August 2001 from being conducted in laboratories constructed with any federal funding.) CIRM's grants will support the development of core laboratories to be used by multiple investigators that may be shared by multiple institutions, and provide an environment for scientific research on hESCs under CIRM's medical and ethical standards.

Currently, the Grants Working Group is reviewing applications for the CIRM Major Facilities Grant Program which will fund the establishment of CIRM facilities to support stem cell research programs that encompass all or part of the spectrum of research that will lead from discovery to the development and testing of cures, therapies, diagnosis and treatment technologies. CIRM intends to provide funding for new facilities free of federal funding, that will expand research capacity and capabilities, and that will promote interaction and collaboration among stem cell researchers.

In December, 2007, the ICOC will consider applications for New Faculty Awards. New Faculty Awards will fund the research of promising M.D. and Ph.D. scientists in their early years as independent lead investigators and faculty members. They are intended to develop a new generation of clinical and scientific leaders in stem cell research.

DISEASE TEAM PLANNING AWARDS

Beginning in 2008, CIRM intends to support multi-year Disease Team Grants. To encourage planning for Disease Team Grant applications, the ICOC approved the concept proposal for the "Disease Team Planning Award". The objective of the planning award is to enable a Principal Investigator to recruit a team, and to enlist the team to develop the content, management, and administration of the proposed disease team. Ultimately, the team would develop a formal research proposal for an application for a Disease Team Grant.

NEW CELL LINES AWARDS

CIRM New Cell Lines Awards will support the derivation and propagation of new lines of pluripotent human stem cells that will have important research and clinical application for understanding, diagnosing and treating serious injury and disease. CIRM intends to provide funding for qualified investigators to conduct research in California that will lead to the generation of new

human embryonic stem cell lines and/or to the optimization of new, alternate methods for the derivation of pluripotent human cell lines.

In October 2007, the ICOC approved the concept proposal for new cell lines to address these and other needs for new types and sources of human pluripotent stem cell lines.

ANNUAL CIRM SCHOLARS MEETING

CIRM held the first Annual CIRM Scholars Meeting in September of 2007 that brought together CIRM Scholars, mentors, and program directors from each of the 16 training institutions. The purpose of this meeting was to offer CIRM Scholars the opportunity to present their preliminary data, engage in scientific discussion and exchange ideas. This was also an occasion to meet with peers and mentors that share similar interests in stem cell research as well as to discover what others are working on. For CIRM, it was an opportunity to see first hand the product of our first Request for Applications (RFA) that funded the training grant awards.

For the convenience of attendees and to minimize travel, two meetings were planned, one in for Northern California institutions and one for Southern California institutions. Each meeting includes three basic elements:

- oral presentations by CIRM Scholars;
- a poster session to allow CIRM Scholars to display and discuss their research with others on a one-on-one basis; and
- discussion groups on selected topics of interest such as Stem Cell Self-Renewal and Pluripotency, Translational Challenges, and Career Transitions.

Abstracts from the CIRM Scholars Meeting describes the fine work each researcher is pursuing: http://www.cirm.ca.gov/pub/pdf/annual_mtg.pdf

Institution	Training Grants	SEED Grants	Comp Grants	Shared Lab Grants	New Faculty I Grants	Total Grants	Funds (Requested and Awarded)
Stanford University	1	12	6	1	4	24	$ 41,388,988
University of California, San Francisco	1	9	7	1		18	$ 29,668,776
University of California, Los Angeles	1	7	2	1	3	14	$ 23,350,180
University of California, San Diego	1	6	3	1	1	12	$ 19,854,158
University of California, Irvine	1	7	3	1	1	13	$ 19,614,697
Burnham Institute for Medical Research	1	7	2	1		11	$ 16,537,886
University Southern California	1	4		1	2	8	$ 15,204,500
The Salk Institute for Biological Studies	1	3	1	1	2	8	$ 14,244,212
University of California, Davis	1	2	2	1	1	7	$ 13,526,025
The J. Gladstone Institutes	1	3	1	1		6	$ 9,620,850
University of California, Santa Cruz	1	2		1	2	6	$ 9,381,686
Scripps Research Institute	1	1		1	2	5	$ 9,317,989
Children's Hospital of Los Angeles	1	1	1	1		4	$ 8,427,973
University of California, Berkeley	1	2		1	1	5	$ 7,770,995
University of California, Riverside		2		1	1	4	$ 6,055,762
Buck Institute for Age Research		1		1		2	$ 4,874,364
University of California, Santa Barbara	1			1		2	$ 3,482,131
California Institute of Technology	1					1	$ 2,071,823
City of Hope National Medical Center		1			1	2	$ 1,981,042
University of California, Merced		1			1	2	$ 1,944,763
Human BioMolecular Research Institute		1				1	$ 714,654
Ludwig Institute for Cancer Research		1				1	$ 691,489
Totals	**16**	**73**	**28**	**17**	**22**	**156**	**$ 259,724,943**

Public Policy and Outreach

Many patients and family members of patients with degenerative diseases place great hopes in regenerative medicine. This trust and the monies that the public is investing in the science underscore the need that CIRM continues to promote transparency and accountability to ensure that our mission is met. As stem cell and regenerative medicine fields begin to accelerate, leaders must develop an infrastructure that facilitates the science and addresses public policy. CIRM continues to take such leadership roles.

INTELLECTUAL PROPERTY: "ENSURING INNOVATION AND FAIR RETURN"

CIRM reached important milestones in 2007 in the development of two intellectual property policies for CIRM grants. In June, CIRM's Intellectual Property Policy for Non-Profit and Academic Organizations was approved by the Office of Administrative Law. The policy is embodied in Title 17, California Code of Regulations Sections 100300 – 100310, and defines the obligations non-profit grantees must accept to receive CIRM grants. The task force, led by Vice Chair of the Board, Dr. Ed Penhoet, is currently developing a separate policy for for-profit grantees that is slated for final adoption by the ICOC in December of 2007.

CIRM is committed to funding stem cell research with the goal of promoting the development of therapies and diagnostics for the improvement of human health. The involvement of the for-profit research sector has been essential for the discovery and development of medical therapies and diagnostics. Proposition 71 provides for the funding of for-profit research organizations in California to advance the development of products for public use. The for-profit policy, as with the non-profit policy, is a unique synthesis of best practices and recommendations from funding agencies and foundations around the world.

Building on the principles embodied in the non-profit policy, the for-profit policy describes a revenue sharing arrangement that reflects the unique opportunities for CIRM participation in the development of therapies and diagnostics in the commercial sector. Because CIRM may fund development of a grantee's existing intellectual property or may fund research that leads to patented inventions, the policy applies a tiered return based on the level of CIRM participation and the use of CIRM-funded patented inventions

As is the case for CIRM non-profit grantees, for-profit grantees are expected to file annual reports to CIRM, notify CIRM of relevant press releases, publish their research findings and share publication-related biomedical materials such that research findings can be replicated by others.

In addition to direct monetary payments to the state, as a consequence of expenditure of the "first dollar" of CIRM funding, the for-profit grantee agrees to provide a plan (at the time of commercialization) to provide uninsured California residents access to resultant therapies. The access plan shall be consistent with industry standards existent at the time of commercialization.

Also, the grantees will provide the therapies at a discount price to entities that purchase them in California with public funds. For drugs generated as a consequence of CIRM funding, grantees agree to provide drugs at prices negotiated pursuant to the California Discount Prescription Drug Program (or a similar successor discount prescription drug program) to eligible Californians under that program. Awardees also agree to provide discount pricing for therapies in addition to drugs that result from CIRM funding. Additionally, in an effort to ensure that CIRM-funded projects are brought to public use, CIRM maintains march-in rights for projects funded at for-profit research organizations.

The ICOC, CIRM and task force has held at least 14 public meetings devoted to intellectual property policy development and nearly 20 presentations by

California is continuing on the path of turning the hope and promise of stem cell research into the reality of therapies and cures for millions of Californians and people across the globe. The California spirit—the perseverance, creativity and resourcefulness that has made us a leader on everything from gold mining in the 19th Century to fighting global warming in this one—is fully present in our stem cell research teams…California shows we are again blazing the trail.

— **Fabian Núñez**, Speaker of the California State Assembly, March 16, 2007
(ICOC meeting awarding Comprehensive Grants)

experts and stakeholders to discuss technology transfer, granting agency processes and intellectual property policies. The ICOC approved the interim for-profit policy in December of 2006 and submitted draft regulations to the Office of Administrative Law in early 2007 to begin the formal adoption process. The regulations are expected to be finalized in December of 2007 and final OAL approval is targeted for early February, 2008.

MAINTAINING THE PUBLIC TRUST

The ICOC and CIRM continue to provide transparency of its regulations and actions to the public. The ICOC is required by law to hold at least two public meetings each year. In 2007 it held 12 public meetings. The agency continues public education efforts with Spotlight on Disease presentations. These presentations provide a public platform focusing on the current research and treatment options for those suffering from various disease and chronic injury as well as highlighting the curative potential of stem cell research. (Summaries of these presentations appear in the front section of this report.)

Additional public meetings and public hearings held by working groups, subcommittees and other advisory groups, are listed in the adjacent table.

ADVANCING SAFETY IN RESEARCH

CIRM approached the Institute of Medicine (IOM) and the National Research Council to convene a committee of experts to ascertain the medical risks of oocyte donation for stem cell research. The committee consisted of leaders from the fields of human embryology, reproductive medicine, reproductive psychology and women's health, and biostatistics. The IOM report serves as the foundation for CIRM's ongoing efforts to ensure funded research is performed under the highest ethical standards. The full report can be found at: http://www.iom.edu/CMS/3740/36353/40105.aspx

ONGOING PUBLIC OUTREACH AND EDUCATION

CIRM sponsored two regional workshops to create a peer learning environment where representatives of nonprofit research institutions could discuss their experiences implementing the MES regulations. The first workshop was held at Stanford University on February 9, 2007 and the second on April 6, 2007 at the Burnham Institute for Medical Research. A summary report is available at: http://www.cirm.ca.gov/meetings/pdf/2007/050907_item_8b.pdf

2007 PUBLIC MEETINGS — 52

- Independent Citizens Oversight Committee (ICOC) — 12
- Scientific & Medical Research Funding Working Group (Grants Working Group) — 5
- Scientific & Medical Research Facilities Working Group (Facilities Working Group) — 11
- Standards Working Group — 2
- Governance Subcommittee — 5
- Presidential Search Subcommittee — 9
- Legislative Subcommittee — 1
- IP Task Force — 1
- Interested Parties — 4
- Biotech Loan Task Force — 1
- Citizens Financial Accountability Oversight Committee — 1

As part of CIRM's commitment to California's public, staff routinely make public presentations describing the institute's activities including holding interested parties meetings, as well as attends a number of conferences and other events on the topic of medical standards.

DIVERSITY ADVISORY COMMITTEE

In its desire to ensure that all Californians benefit from the Institute's activities CIRM incepted the Diversity Advisory Council (DAC). DAC's chairperson, Pamela Freeman Fobbs, is a thirty-year advocate for California and global health concerns and is Past President of the Auxiliary to the National Medical Association, an organization representing the interests of more than 20,000 physician families of African ancestry in the USA. Her close relationship with the California Medical Association allowed her the opportunity to nominate California's finest citizens from diverse backgrounds as members of the council. DAC is represented by Asians, Indians, Native Americans, Pakistanis, Latino and African Americans. There are physicians, scientists, health advocates, educators and an attorney.

DAC has been an active part of the California Medical Association's Organization of Ethnic Physicians Summit since its inception. Its Chairperson, Ms. Fobbs, was invited to participate in the United Nations 51st Commission of the Status of Women in February, 2007. She was invited by Congresswoman Diane Watson to participate as a California healthcare leader in the annual Congressional Black Caucus Legislative Conference, September, 2007. DAC's council members have been very warmly received by members of California's entire community—both ethnic and majority.

> To maintain the high standards of the scientific community throughout the world we must be able to adapt to breakthroughs and revolutionary thinking brought by talented scientists, governments and minds throughout the world.

INTERNATIONAL AND NATIONAL COLLABORATION

CALIFORNIA AS GLOBAL LEADER—MEMBER OF THE INTERNATIONAL STEM CELL FORUM

While the study of many types of stem cells is still in its infancy, greater understanding of their capacity and how to direct their activity allows scientists considerable potential to develop new regenerative treatments that would deploy the body's own ability for growth and repair against a range of conditions such as Parkinson's disease, diabetes, spinal cord injury, stroke, burns, heart disease, cancer, and arthritis. To maintain the high standards of the scientific community throughout the world we must be able to adapt to breakthroughs and revolutionary thinking brought by talented scientists, governments and minds throughout the world. Bringing together the complementary strengths of various countries across the globe will ensure that we continue to pursue the highest quality research and use the knowledge we gain for the betterment of human health.

CIRM continues to foster and develop cooperative relationships and partnerships with stem cell researchers in other states and other countries to fully leverage its resources. California's performance as a world class leader has earned global recognition by its membership to the International Stem Cell Forum (ISCF), a 21 member international organization that promotes good practices in research on human stem cells. This continues to foster the development of research around the world and facilities links across borders to review best practices in the ever-developing arena of stem cell research. In February 2008, CIRM hosts the 7th annual meeting in San Francisco.

SUPPORTING INTERSTATE DIALOGUE AND COLLABORATION

CIRM is active in the Interstate Alliance for Stem Cell Research (IASCR). The IASCR's mission is to advance stem cell research by fostering effective interstate collaboration, by assisting states in developing research programs, and by promoting efficient and responsible use of public funds. The IASCR works to (a) identify and increase opportunities for interstate collaboration; (b) identify and decrease obstacles to collaborative research across state lines; and (c) assist states who wish to develop or improve upon public funding programs in this area. In 2007, Dr. Geoffrey Lomax, CIRM's Senior Officer for Medical and Ethical Standards, was asked by the IASCR membership to serve as deputy chair to advance the organization's goals.

LEGAL

On May 16, 2007 the constitutional challenges to Proposition 71 came to an end when without comment, the California Supreme Court declined to review two lower court decisions that unequivocally upheld the law. (California Family Bioethics Council v. California Institute for Regenerative Medicine, et al.) This final decision removed the last barrier to issuance of the $3 billion dollars in state bonds that the voters approved to publicly fund stem cell research in California.

Following a favorable judgment from the trial court in May 2006, in which the judge soundly rejected each of plaintiffs' constitutional attacks on Proposition 71, the plaintiffs appealed. The appeal was fully briefed in November 2006, and the Court of Appeal scheduled a hearing for February 14, 2007. On February 26th, less than two weeks after oral argument, the three-judge panel issued a 48-page decision that painstakingly reviewed each of the plaintiffs' arguments and firmly rejected them, one by one. In concluding, the court held:

"[T]he objective of the proposition is to find, 'as speedily as possible,' therapies for the treatment and cure of major diseases and injuries, an aim the legitimacy of which no one disputes. The very pendency of this litigation, however, has interfered

▼ *Richard K. Olney, M.D., one of the country's top ALS scientists, was diagnosed with the disease himself.*

with implementation for more than two years. After careful consideration of all of appellants' legal objections, we have no hesitation in concluding, in the exercise of "our solemn duty to jealously guard the precious initiative power… that Proposition 71 suffers from no constitutional or other legal infirmity. Accordingly, we shall affirm the well-reasoned decision of the trial court upholding the validity of the initiative."

Plaintiffs, National Tax Limitation Foundation, People's Advocate, and California Family Bioethics Council, were represented by the Life Legal Defense Foundation, which opposes embryonic stem cell research on religious grounds. The two suits brought by these plaintiffs argued that Proposition 71 violated the California Constitution because the state agency it created was not in state control and because it violated conflict of interest laws. Both the trial and appellate courts found these arguments without any basis.

The Court of Appeal subsequently rejected the plaintiffs' petition for a rehearing.

Still, plaintiffs filed petitions for review, asking the California Supreme Court to consider the merits of their cases. Within weeks, the Supreme Court denied both petitions. All appeals are now exhausted, and the plaintiffs have publicly acknowledged final defeat.

As a result of the comprehensive decision issued by the Court of Appeal, plaintiffs voluntarily dismissed another, related suit against the State Controller and the University of California that challenged the training grants CIRM awarded to various University of California research institutions. (National Tax Limitation Foundation and California Family Bioethics Council v. Westly, et al.) This dismissal was a tacit admission that the decision of the Court of Appeal had gutted the legal theory underlying that case.

No other case may be brought that might interfere with issuance of the bonds authorized to fund stem cell research. The final judgment includes an injunction preventing any suit and the state statute of limitations has expired. As a result, the decision of the Supreme Court removed the last practical impediment to issuance of the stem cell bonds.

FINANCIAL & GOVERNMENT OVERSIGHT

BOND ISSUANCE—FIRST PUBLIC FUNDING OF INTELLECTUAL CAPITAL IN THE 21ST CENTURY

California again set precedent as the first state in the country to use public bonds to directly finance the development of intellectual capital for the 21st century. In October 2007, State Treasurer Bill Lockyer successfully completed the first sale of stem cell research general obligation bonds, authorized by Proposition 71 in November 2004. The $250 million issue was over-subscribed, with individual investors exceeding expectations by purchasing more than 41 percent ($102.8 million) of the bonds. The remainder of the bonds was purchased by institutional investors such as mutual funds, banks and insurance companies. Over $200 million of the bonds issuance will fund human embryonic stem cell research grants. To help illustrate the magnitude of the investment made possible by the sale, Lockyer noted the National Institute of Health since the 2002 fiscal year has funded a total of $131 million in hESC research. This historic event shows the tremendous support from individuals and others in their belief of the promise of stem cell research to provide therapies and relief for patients and families suffering from debilitating disease or chronic injury.

BRIDGE FINANCING—BOND ANTICIPATION NOTES (BANS) & GENERAL FUND LOAN

With the issuance of the bonds, CIRM is rapidly implementing the voters' mandate. CIRM gives special appreciation and gratitude to those who provided innovative bridge financing to CIRM during its early challenges. This includes $45 million provided by the Bond Anticipation Notes (BANs) Holders and the $150 million General Fund Loan authorized by Governor Arnold Schwarzenegger, with special credit to Board Member Sherry Lansing. The BANs were provided by private individuals and foundations whose financial commitment and leadership not only paved the way for CIRM to fund human embryonic stem cell research, but also initiated philanthropic donorship and state government activity across the nation. Once the capacity for performance was demonstrated, other

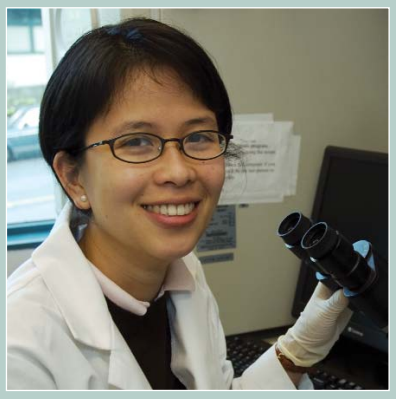
states reached the conclusion that a state agency funding program was achievable. A portion of the bond issuance will pay back this bridge financing.

CITIZENS FINANCIAL ACCOUNTABILITY OVERSIGHT COMMITTEE (CFAOC)

As required by Proposition 71, the Citizens Financial Accountability Oversight Committee (CFAOC) reviews the agency's independent audit, as well as the State Controller's separate review of the Institute's financial practices. The CFAOC is chaired by the State Controller, John Chiang. In the November 2007 meeting, the committee reviewed the ICOC and CIRM financial practices, policies, and audit for the fiscal year ending June 30, 2006. The agency was commended for the unqualified (clean) opinion received from its financial auditors noting no significant deficiencies or material weaknesses in internal control. Its members are appointed by State officeholders and are listed on page 48 (with the appointing officer in parentheses).

CIRM SCHOLARS (TRAINING GRANT AWARDS)

CIRM's first grant awards underscore the need to make investments for the future. The Training Grant program was developed to train a cadre of basic and clinical scientists who will contribute to the expansion of stem cell research in California. CIRM awarded grants to 169 trainees at 16 academic and not-for-profit California institutions to foster training of pre-doctoral students, post-doctoral and clinical fellows. These 'CIRM Scholars', the next generation of stem cell scientists, have already made considerable contributions bringing innovative ways of thinking, new tools, and new skills.



The training grants have helped California universities recruit the best and most gifted to a field that will require a substantial investment of research to determine the potential of stem cells and other early-stage cells to illuminate and treat a variety of intractable diseases and conditions. Many have published in highly rated journals and magazines such as *Nature* and *Science*.

Top: CIRM Scholar **Maria Deato**, University of California, Berkeley, received her Ph.D. in Molecular and Cell Biology in December. She recently published her research related to biological pathways involved in development of muscular tissue (myogenesis) in the journal *Genes and Development*. This research is designed to identify specific molecules that effect this development.

Bottom: CIRM Scholar **Laura Elias**, University of California, San Francisco, a neuro-biology pre-doctoral graduate student at UCSF's Institute for Regeneration Medicine, was the lead author of a study on the migration of brain cells that was the cover article in the August 2007 issue of *Nature*. The striking new findings relate to brain cell migration that helps further understand brain processes and development—important to understand other physiological and disease processes. Laura was also recognized in *7x7* magazine as one of the San Francisco Bay Area's top 20 young professionals.

The Year Ahead

Reducing human suffering—to meet the scale of this historic opportunity, patient advocates, the leadership of civil society, chambers of commerce and government must forge a broad partnership to invest in the intellectual capital of the 21st century. This is our legacy and responsibility to ensure both the legal sanctuary and the funding of this research, so that our children and the next generation may have the benefits of seizing this historic opportunity. — **Robert N. Klein**, Chairman of the Governing Board

CIRM is entering into a new era and has many great initiatives to move forward next year. This includes:

- More mission directed grants including translational focused research including:
  - New pluripotent cell lines
  - Disease Team Planning Awards and Disease Team Research Awards
- A renewal Training Grant to continue to train the next generation of researchers in stem cell science
- Continuation of initiatives to support basic science which is fundamental to continued growth and advancement of the field
- Build internal expertise and infrastructure with additional staff hires and the implementation of a grants management system
- Engagement of the commercial sector with anticipated ICOC approval of a Grant Administration Policy for For-Profits. Additionally the Biotech Loan Task Force will provide another funding mechanism to engage For-Profit participation in achieving CIRM's mission
- International Stem Cell Forum (ISCF)—CIRM will host the 7th Annual Meeting in San Francisco, California in February 2008

These are exciting days at CIRM, and we are only at the beginning. We look forward to the future and to the scientific progress that will undoubtedly emerge as CIRM achieves its mission of supporting stem cell research for the improvement of human health.

▼ *Young woman with spinal cord injury*

Member Lists

ICOC SUBCOMMITTEE MEMBERS

Presidential Search Subcommittee
Robert Birgeneau
Susan Bryant
Michael Goldberg
Brian Henderson
David Kessler
Robert Klein *(Chair)*
Sherry Lansing
Tina Nova
Ed Penhoet
Philip Pizzo
Joan Samuelson
David Serrano Sewell
Jeff Sheehy
Janet Wright

Governance Subcommittee
Brian Henderson
Robert Klein
Sherry Lansing *(Chair)*
Tina Nova
Philip Pizzo
Claire Pomeroy
John Reed
Duane Roth
Oswald Steward

Legislative Subcommittee
Susan Bryant
Michael Goldberg
Robert Klein *(Chair)*
Sherry Lansing
Tina Nova *(Vice Chair)*
Claire Pomeroy
Francisco Prieto *(Vice Chair)*
John Reed
Joan Samuelson
Jeff Sheehy
Janet Wright

Finance Subcommittee
Ricardo Azziz
Robert Birgeneau
Floyd Bloom
Marcy Feit *(Vice Chair)*
Michael Goldberg *(Chair)*
Robert Klein
Ted Love
Tina Nova
Ed Penhoet
Philip Pizzo
Duane Roth
Jeff Sheehy
Oswald Steward

IP Task Force Subcommittee
Susan Bryant
Michael Goldberg
Sherry Lansing
Ted Love
Ed Penhoet *(Chair)*
Philip Pizzo
Francisco Prieto
John Reed
Duane Roth
Jeff Sheehy
Oswald Steward
Janet Wright

BioTech Loan Task Force
Floyd Bloom
Marcy Feit
Michael Goldberg
Robert Klein
Ted Love
Ed Penhoet
Duane Roth *(Chair)*
Jeff Sheehy
Oswald Steward

SCIENTIFIC AND MEDICAL RESEARCH FUNDING WORKING GROUP

Patient Advocates of the ICOC	Affiliation
Robert Klein *(ex-officio)*	ICOC Chair
Marcy Feit	ICOC Patient Advocate – Type II Diabetes
Sherry Lansing	ICOC Patient Advocate – Cancer
Joan Samuelson *(Vice Chair)*	ICOC Patient Advocate – Parkinson's Disease
David Serrano Sewell	ICOC Patient Advocate – MS/ALS
Jeff Sheehy *(Vice Chair–ALT)*	ICOC Patient Advocate – HIV/AIDS
Jonathan Shestack	ICOC Patient Advocate – Mental Health
Janet Wright	ICOC Patient Advocate – Heart Disease

Scientists	Affiliation	Expertise
Susan Bonner-Weir	Joslin Diabetes Center, Harvard Medical School	Diabetes
Ali Brivanlou	The Rockefeller University	Developmental Biology
Jeff Bulte	John Hopkins University	Cellular Imaging
Patricia Donahoe	Harvard Medical School	Oncology
Andrew Feinberg	Johns Hopkins University	Oncology
Alexandra Joyner	New York University School of Medicine	Developmental Biology
Judith Kimble	University of Wisconsin	Developmental Biology, Organogenesis
Jeffrey Macklis	Harvard Medical School	Neurodegenerative Diseases (ALS, SCI)
Stuart Orkin *(Chair)*	Dana Farber Cancer Institute	Hematopoiesis, Gene Expression
Jim Roberts	Fred Hutchinson Cancer Research Center	Oncology, Cell Cycle
Jeffrey Rothstein	Johns Hopkins University School of Medicine	Neurodegenerative Diseases (ALS)
Pablo Rubinstein	New York Blood Center	Hematopoiesis
Dennis Steindler	University of Florida McKnight Brain Institute	Neurodegenerative Diseases
Rainer Storb	Fred Hutchinson Cancer Research Center	Hematopoiesis, Bone Marrow Transplant
Wise Young	Rutgers University	Neurodegenerative Diseases (SCI)

(continued)

SCIENTIFIC AND MEDICAL RESEARCH FUNDING WORKING GROUP *(continued)*

Alternate Scientists	Affiliation	Expertise
Marie Csete	Emory University	Stem Cell Biology, Transplantation
Margaret Baron	Mount Sinai School of Medicine	Hematopoiesis Embryogenesis Gene Expression
Ian D. Duncan	University of Wisconsin	Neurodegenerative Diseases (MS)
Kevin Eggan	Harvard University	Epigenetics, Stem Cell Biology
Stephen Emerson	University of Pennsylvania	Hematopoietic Cells and Transplantation
Todd Evans	Albert Einstein College of Medicine	Developmental and Molecular Biology
Charles ffrench-Constant	University of Cambridge	Neurogenesis, Neurodegenerative Diseases (MS)
Gordon Fishell	New York University School of Medicine	Developmental Genetics
John Gearhart	John Hopkins University School of Medicine	Mammalian Developmental Genetics, Human Stem Cell Biology
Margaret Goodell	Baylor College of Medicine	Hematopoietic Stem Cells, Gene Therapy
Douglas Kerr	John Hopkins Hospital	Neurodegenerative Diseases (TM)
Ann Kiessling	Harvard Medical School	Reproductive Biology, HIV
Diane Krause	Yale University School of Medicine	Hematopoietic Stem and Progenitor Cells
Joanne Kurtzberg	Duke University Children's Hospital	Hematopoiesis, Cord Blood Transplantation
Ihor Lemishka	Princeton University	Hematopoiesis, Gene Expression, Databases
Olle Lindvall	Lund University	Neurodegenerative Diseases (PD)
Ray MacDonald	University of Texas Southwestern Medical Center	Organogenesis, Gene Expression
Sean Morrison	University of Michigan Medical School	Hematopoietic and Neural Stem Cells
Jon Odorico	University of Wisconsin	Diabetes, Transplantation
Frank Rauscher	The Wistar Institute Cancer Center	Oncology, Epigenetics
Thomas A. Reh	University of Washington School of Medicine	Retinal Development
Yair Reisner	Weizmann Institute of Science	Immunology, Transplantation
Raymond Roos	University of Chicago	Neurodegenerative Diseases (ALS, MS)
Michael R. Rosen	Columbia University	Cardiovascular Disease
Alan Rosmarin	Brown Medical School	Hematology, Gene Expression
Janet Rossant	University of Toronto	Developmental and Stem Cell Biology
Michael Rudnicki	Ottawa Health Research Institute	Myogenesis, Gene Expression
David Scadden	Harvard Medical School	Stem Cell Microenvironments
Harinder Singh	University of Chicago	Hematopoietic Cell Differentiation, Immune System
Glyn Stacey	United Kingdom's Stem Cell Bank	Stem Cell Standardization and Banking
Charles D. Stiles	Dana Farber Cancer Institute, Harvard Medical School	Neuro-oncology, Genomics
Lorenz Studer	Memorial Sloan-Kettering Cancer Center	Neurogenesis, Differentiation
Catherine Verfaillie	University of Minnesota	Hematopoiesis, Mesenchymal Stem Cells
Amy Wagers	Harvard Medical School	Hematopoietic Stem Cells
John Wagner	University of Minnesota	Hematopoietic Cells, Transplantation
Fiona Watt	Cambridge Research Institute	Epidermal Stem Cells, Oncology
David Williams	Cincinnati Children's Hospital Medical Center	Hematopoiesis, Gene Therapy

Ad Hoc Members	Affiliation	Expertise
George Daley	Boston Children's Hospital and Harvard Stem Cell Institute	Hematopoiesis, Oncology
John Trojanowski	University of Pennsylvania	Neurodegenerative Diseases (AD)
Josh Sanes	Harvard University	Neurobiology, Molecular and Cellular Biology
Allan Spradling	Carnegie Institution and Johns Hopkins University	Germline Stem Cells

SCIENTIFIC AND MEDICAL ACCOUNTABILITY STANDARDS WORKING GROUP MEMBERS

Patient Advocates of the ICOC	Affiliation
Marcy Feit	ICOC Patient Advocate for Type II Diabetes
Robert Klein	ICOC Chair
Sherry Lansing *(Co-Chair)*	ICOC Patient Advocate for Cancer
Francisco Prieto	ICOC Patient Advocate for Type I Diabetes
Jeff Sheehy	ICOC Patient Advocate for HIV/AIDS
Jonathan Shestack	ICOC Patient Advocate for Mental Health

Ethicists	Affiliation	Expertise
Alta Charo	University of Wisconsin	Health Law, Bioethics and Biotechnology Law, Medical Ethics, Reproductive Rights
Bernard Lo *(Co-Chair)*	University of California San Francisco	Biomedical Ethics related to oocyte, embryo and stem cell research
Patricia King	Georgetown University	Biomedical ethics related to SC research and therapy; reproductive technology, minority populations
Ted Peters	Pacific Lutheran Theological Seminary, Graduate Theological Union	Biomedical Ethics of stem cell research; Genetics

SCIENTIFIC AND MEDICAL ACCOUNTABILITY STANDARDS WORKING GROUP MEMBERS *(continued)*

Scientist/Clinicians	Affiliation	Expertise
Jose Cibelli	Michigan State University	SCNT & Primate Embryonic Stem Cells
Kevin Eggan	Harvard University	Epigenetics, SCNT
Ann Kiessling	Harvard University	SCNT & Oocyte Derivation, IVF and egg donation
Jeffrey Kordower	Rush Presbyterian-St. Luke's Medical Center	Neurodegenerative Diseases
Kenneth Olden	National Institute of Environmental Health Sciences	Cellular Biology/Biochemistry, hematopoietic SCs
Janet Rowley	University of Chicago School of Medicine	Oncology, Molecular Genetics, and Cell Biology, hematopoietic SCs
Robert Taylor	Emory University	Reproductive biology; IVF and egg donation
John Wagner	University of Minnesota	SC transplant biology, clinical trials
James Willerson	University of Texas Health Sciences Center, Texas Heart Institute	Stem cell biology & Cardiac Tissue (applications to treat damaged heart tissue); clinical trials

SCIENTIFIC AND MEDICAL RESEARCH FACILITIES WORKING GROUP OF THE CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE

Patient Advocate Members	Association	
Marcy Feit	ICOC Patient Advocate for Type II Diabetes	President and CEO, ValleyCare Health System
Joan Samuelson	ICOC Patient Advocate for Parkinson's	President, Parkinson's Action Network
David Serrano Sewell *(Vice Chair)*	ICOC Patient Advocate for MS/ALS	San Francisco City Attorney's Office
Jeff Sheehy	ICOC Patient Advocate for HIV/AIDS	Director of Communications, AIDS Research Institute at UCSF
Janet S. Wright	ICOC Patient Advocate for Heart Disease	Member American College of Cardiology Northstate Cardiology Consultants

Chair of the Governing Board

Robert Klein	ICOC Chair	Klein Financial Corporation

Real Estate Specialist Members

Deborah Hysen	Formerly with The State of California Performance Review
Edward Kashian	Lance-Kashian & Company
Stuart M. Laff	DMJM Consulting/AECOM
David Lichtenger *(Chair)*	Integrity Facility Solutions

Alternates and Ad Hocs

Alternate Real Estate Specialists

James Frager	Taylor Frager
Joe Mock	ZORO LLC; Signature Fruit Company, LLC
Warren "Ned" Spieker	Spieker Partners

Ad Hoc Real Estate Specialists

Peter Isakovic	Grubb & Ellis
Stuart Shiff	Divco West Properties

DIVERSITY ADVISORY COMMITTEE

Malik Baz, M.D.	Board of Directors of American Lung Association of Central California; President, Baz Allergy, Asthma and Sinus Center, Fresno
Ed Chow, M.D.	Physician; Executive Director, Chinese Community Health Care Association; Network of Ethnic Physicians Organization, San Francisco
Arthur Flemming, M.D.	Chair, Network of Ethnic Physicians Organizations; Chair, Region VI, National Medical Association, Los Angeles
Pamela Freeman Fobbs, J.D. *(Chair)*	Past President, Auxiliary to the National Medical Association, Fresno
Diane Harris-Wilson, Ph.D.	Professor of Psychology, San Francisco State University Fellow – Center for Health Disparities Research and Training, San Francisco
Margaret Juarez, M.D.	Physician, Chair, California Latino Medical Association, Los Angeles
Keda Obledo	Co-Founder, Mexican American Legal Defense and Education Fund, Sacramento
Mario Obledo	Co-Founder, Mexican American Legal Defense and Education Fund, Sacramento
Randal Pham, M.D.	Chair, Ethnic Medical Organization Section, California Medical Association, San Jose
Scott Syphax	Affordable Housing Executive CEO & President, Nehemiah Corporation of America, Sacramento

CITIZENS FINANCIAL ACCOUNTABILITY OVERSIGHT COMMITTEE (CFAOC)

John Chiang *(Chair)*	State Controller
Loren Lipson, M.D. *(appointed by State Controller)*	Professor Emeritus of Medicine, Keck School of Medicine, University of Southern California
Daniel S. Brunner *(appointed by State Treasurer)*	Executive Vice President (Retired), FirstHealth
Gurbinder Sadana, M.D. *(appointed by Speaker of the Assembly)*	Board of Directors Member, Pomona Valley Hospital Medical Center Foundation
Jim Lott *(appointed by Senate President Pro Tem)*	Executive Vice President, Policy Development and Communications Hospital Association of Southern California
Myrtle Potter *(appointed by ICOC Chair)*	Principal, Myrtle Potter Consulting, LLC

CIRM EMPLOYEES

Pat Becker	Senior Executive Assistant to the President
Alexandra Campe	Chief Human Resource Officer
Tricia Chavira	Grants Technical Assistant
Meybel Cortez	Grants Technical Assistant
Ed Dorrington	Director of Grants Management System
Uta Grieshammer	Scientific Officer
Douglas Guillen	Office Manager
Kumar Hari	Scientific Officer
Lynn Harwell	Deputy to the Chair—Finance, Policy & Outreach
Rick Keller	Senior Officer for Scientific & Medical Research Facilities
Melissa King	Executive Director, ICOC
Robert Klein	Chair of the Governing Board
Amy Lewis	Grants Management Officer
Geoff Lomax	Senior Officer for Medical & Ethical Standards
Susan Marton	Grants Technical Assistant
Mary Maxon	Deputy to the Vice Chair of the Governing Board
Richard Murphy	Interim President
Asha Nigh	Scientific Officer
Sue North	Interim Director, Legislative Affairs
Patricia Olson	Interim Director of Scientific Activities
Tamar Pachter	General Counsel
Ed Penhoet	Vice Chair of the Governing Board
Jennifer Pryne	Executive Aide to the Chair
Gil Sambrano	Senior Officer for Grants Working Group
Bettina Steffen	Scientific Officer
Scott Tocher	Interim Associate Legal Counsel to the Vice Chair

FORMER CIRM EMPLOYEES

Dennis Butler	Technology Officer
Dale Carlson	Chief Communications Officer
Rosemary Chengson	Financial Services Officer
Arlene Chiu	Chief Scientific Officer
Marcia Davey	Finance Officer
Amy DuRoss	Chief of Staff to the Chair
Mario Garcia	Grants Management Specialist
Ruth Globus	Science Officer
Zach Hall	President & Chief Scientific Officer
Lori Hoffman	Chief Finance and Administrative Officer
Kirk Kleinschmidt	Director, Legislation and Research Policy
Erin Robbins	Facilities & Procurement Analyst
Kate Shreve	Chair's Liaison to the Working Groups

FORMER ICOC MEMBERS

	Affiliation when ICOC Member	ICOC Position
David Baltimore, Ph.D.	Robert A. Millikan Professor of Biology at the California Institute of Technology	An executive officer from a California university
Keith L. Black, M.D.	Director of Neurosurgery, Cedars-Sinai Medical Center	An executive officer from a California research institute
Edward W. Holmes, M.D.	Vice Chancellor for Health Sciences and Dean, School of Medicine, UC San Diego	An executive officer from a UC with a medical school
Richard A. Murphy, Ph.D.	President and CEO, Salk Institute	An executive officer from a California research institute
Phyllis Preciado, M.D.	Diabetes Resource Network	Representative of a commercial life science entity
Leon Thal, M.D	Chair and Professor, Department of Neurosciences, UC San Diego	Patient advocate, Alzheimer's Disease
Gayle Wilson	Board of Directors, Gilead Sciences	Representative of a commercial life science entity

Financial Reports

INDEPENDENT AUDITOR'S REPORTS, FINANCIAL STATEMENTS AND REQUIRED SUPPLEMENTARY INFORMATION / FOR THE YEAR ENDED JUNE 30, 2006

INDEPENDENT AUDITOR'S REPORT

To the Members of the Independent Citizen's Oversight Committee, CIRM, Sacramento, California

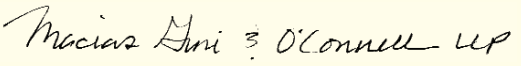
We have audited the accompanying financial statements of the governmental activities and major fund of the California Institute for Regenerative Medicine (CIRM), a component unit of the State of California, as of and for the year ended June 30, 2006, which collectively comprise CIRM's basic financial statements as listed in the table of contents. These financial statements are the responsibility of CIRM's management. Our responsibility is to express opinions on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of CIRM's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinions.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and the major fund of CIRM as of June 30, 2006, and the respective changes in financial position and the budgetary comparison for the general fund for the year then ended in conformity with accounting principles generally accepted in the United States of America.

In accordance with *Government Auditing Standards,* we have also issued our report dated January 5, 2007, on our consideration of CIRM's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audit.

The Management's Discussion and Analysis on pages 3 through 7 is not a required part of the basic financial statements but is supplementary information required by accounting principles generally accepted in the Unites States of America. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the required supplementary information. However, we did not audit the information and express no opinion on it. Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise CIRM's basic financial statements. The supplemental information as listed in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.



Macias, Gini & O'Connell, LLP
Certified Public Accountants

SACRAMENTO, CALIFORNIA
JANUARY 5, 2007, EXCEPT FOR NOTE 9 TO THE FINANCIAL
STATEMENTS, AS TO WHICH THE DATE IS FEBRUARY 27, 2007

The Management of the California Institute for Regenerative Medicine (CIRM) is pleased to provide this overview and analysis of the financial activities of CIRM for the year ended June 30, 2006. We encourage readers to consider the information presented here in conjunction with the Financial Statements that follow this discussion.

FINANCIAL HIGHLIGHTS

- The net assets of CIRM at June 30, 2006 were $(15,204,115) compared to the end of the prior fiscal year of $2,457,613. Of that amount, $60,582 was invested in capital assets and $(15,264,697) was unrestricted.
- CIRM's cash and investments balance at June 30, 2006 is $2,651,574, a decrease of $2,460,580 from the balance at June 30, 2005.
- For fiscal year ended June 30, 2006 CIRM had program revenues of $350,000, which represents a decrease of $4,650,000 from the prior year. Additionally, general revenues were $73,716 for fiscal year 2006 representing a slight decrease of $10,944 from the prior year. Expenses for fiscal 2006 were $18,085,444, a $15,458,397 increase from the prior year.
- All financial assets of CIRM continue to be devoted to providing funds for medical research.

OVERVIEW OF THE FINANCIAL STATEMENTS

This discussion and analysis is intended to serve as an introduction to CIRM's basic financial statements, which are comprised of the following components, in addition to management's discussion and analysis: 1) Government-wide financial statements, 2) fund financial statements, and 3) notes to the financial statements. The government-wide and fund financial statements are presented in a combined format as listed in the table of contents. Items in the adjustment column of each respective financial statement are discussed in Note 3.

GOVERNMENT-WIDE FINANCIAL STATEMENTS

The government-wide financial statements are designed to provide readers with a broad overview of CIRM's finances, in a manner similar to a private-sector business.

The statement of net assets presents information on all of CIRM's assets and liabilities, with the difference between the two reported as net assets. Over time, increases or decreases in net assets may serve as a useful indicator of whether the financial position of CIRM is improving or deteriorating.

The statement of activities presents information showing how CIRM's net assets changed during the most recent fiscal year. All changes in net assets are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flows in future fiscal periods (e.g., earned but unused vacation leave).

FUND FINANCIAL STATEMENTS

A fund is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. CIRM uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. CIRM reports one governmental-type fund, the Stem Cell Fund.

Governmental fund financial statements focus on near-term inflows and outflows of spendable resources, as well as on balances of spendable resources available at the end of the fiscal year. Such information may be useful in evaluating CIRM's near-term financing requirements.

Because the focus of governmental funds is narrower than that of the government-wide financial statements, it is useful to compare the information presented for the governmental funds with similar information presented for governmental activities. Both the governmental funds balance sheet and the governmental funds statement of revenues, expenditures, and changes in fund balances provide a column detailing the differences (adjustments) between the governmental funds and governmental activities. These adjustments are discussed in further detail in Note 3 to the basic financial statements.

NOTES TO THE FINANCIAL STATEMENTS

The notes provide additional information that is essential to a full understanding of the data provided in CIRM-wide and fund financial statements. The notes to the financial statements can be found on the pages as listed in the table of contents of this report.

GOVERNMENT-WIDE FINANCIAL ANALYSIS

The government-wide financial statements provide long-term and short-term information about CIRM's overall financial condition. This analysis addresses the financial statements of CIRM as a whole.

As noted earlier, net assets may serve over time as a useful indicator of CIRM's financial position. At June 30, 2006 CIRM's net assets were ($15,204,115) a decrease of $17,661,728 over the prior year net assets of $2,457,613.

At June 30, 2006 ($15,264,697) of CIRM's net assets are unrestricted. The remaining net assets of $60,582 reflect its investment in capital assets.

For the year ended June 30, 2006, net assets decreased by $17,661,728 primarily due to the issuance of bond anticipation notes, the proceeds of which were used to support the operations of the CIRM and award $12.1 million in training grants. Program revenues decreased by $4,650,000 over the previous year. The decrease is attributable to a decrease in private donations. Expenses increased $15,458,397 due to the issuance of training grants and the first full year of operational costs.

CONDENSED STATEMENT of NET ASSETS

(Amounts Expressed in Thousands)

FOR THE FISCAL YEAR ENDED JUNE 30:	2006	2005
Current and other assets	$ 2,651,654	$ 5,112,154
Capital assets	60,582	--
TOTAL ASSETS	2,712,236	5,112,154
Long-term liabilities	14,221,329	--
Other liabilities	3,695,022	2,654,541
TOTAL LIABILITIES	17,916,351	2,654,541
Net assets:		
Invested in capital assets	60,582	--
Unrestricted	(15,264,697)	2,457,613
TOTAL NET ASSETS (DEFICIT)	$ (15,204,115)	$ 2,457,613

CONDENSED STATEMENT of ACTIVITIES

(Amounts Expressed in Thousands)

FOR THE FISCAL YEAR ENDED JUNE 30:	2006	2004
REVENUES:		
Program revenues:		
Operating grants and Contributions	$ 350,000	$ 5,000,000
General revenues:		
Investment earnings	73,716	--
Other	--	84,660
TOTAL REVENUES	$ 423,716	$ 5,084,660
EXPENSES:		
State operations	$ 4,215,984	736,705
Research grants	13,633,862	1,890,342
Interest	225,416	--
Depreciation	10,182	--
TOTAL EXPENSES	$ 18,085,444	$ 2,627,047
INCREASE (DECREASE) IN NET ASSETS	$(17,661,728)	--
NET ASSETS, BEGINNING OF YEAR	2,457,613	--
NET ASSETS, END OF YEAR	$(15,204,115)	$ 2,457,613

FINANCIAL ANALYSIS OF CIRM'S FUNDS

The focus of the Stem Cell Fund is to provide information on near-term inflows, outflows, and balances of spendable resources. Such information is useful in assessing CIRM's financing requirements. In particular, fund balance may serve as a useful measure of CIRM's net resources available for spending for program purposes at the end of the fiscal year.

As of the end of the June 30, 2006 fiscal year, the Stem Cell Fund reported ending fund balance of $(817,952) compared to the June 30, 2005 ending fund balance of $2,457,613. CIRM's major source of revenues is private donor grants. CIRM's major expenditures are training grants.

STEM CELL FUND BUDGETARY HIGHLIGHTS

The Stem Cell Fund budget projected total expenditures of $18,072,050. Actual expenditures were lower than budgeted projections by $372,769 due to savings in meeting and travel costs.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets: CIRM's investment in capital assets was $60,582 at June 30, 2006 (net of accumulated depreciation). Major capital asset activities during the current fiscal year included computer and office equipment purchases.

Additional information on CIRM's capital assets can be found in Note 2 of this report.

Long-term Liabilities: During the year ended June 30, 2006, CIRM issued $14,000,000 of bond anticipation notes and recognized a long-term obligation of $221,329 for unused compensated leave. CIRM did not report similar liabilities in the prior year. Additional information on CIRM's long-term liabilities can be found in Note 4 of this report.

FUTURE EVENTS THAT WILL FINANCIALLY AFFECT CIRM

In November 2006 the Governor authorized a loan of $150,000,000.00 to CIRM to support the Institute's research funding. The loan is payable from the net proceeds of the state general obligation bonds authorized in the California Stem Cell Research and Cures Bond Act of 2004 to repay the principal and interest on the loan to the General Fund.

The oral arguments in the litigation challenging the Constitutionality of the California Stem Cell Research and Cures Act have been set by the Court of Appeal (First District) for February 2007. The CIRM anticipates the litigation will be resolved in 2007.

The CIRM awarded the first round of the Training Grant Program in Stem Cell Research totaling $12.1 million in FY 2005-06. The three year Training Grant Program estimates additional $12.1 million annually in awards to be made in 2007 and 2008.

The CIRM Innovation Grants Program (SEED and Comprehensive) has an estimated budget of $104 million as approved by the ICOC in August 2006 which will be paid over a two to four year period. These grant awards await final approval by the ICOC at their February and March 2007 meetings. The CIRM Shared Research Laboratory Grant Program will fund dedicated laboratory space for the culture of Human Embryonic Stem Cells, particularly those that fall outside federal guidelines. CIRM intends to fund up to $48.5 million over three years for the shared facilities grants, with awards expected in June 2007.

CONTACTING CIRM'S FINANCIAL MANAGEMENT

This financial report is designed to provide a general overview of CIRM's finances, and to demonstrate CIRM's accountability for the money it receives. If you have questions about this report, or need additional financial information, please contact the California Institute for Regenerative Medicine, 210 King Street, Third Floor, San Francisco, California 94107.

STATEMENT of NET ASSETS and GOVERNMENTAL FUND BALANCE SHEET

JUNE 30, 2006	STEM CELL FUND	ADJUSTMENTS (NOTE 3)	STATEMENT OF NET ASSETS
ASSETS:			
Cash and investments	$ 2,651,574	$ --	$ 2,651,574
Accounts receivable	80	--	80
Capital assets being depreciated, net	--	60,582	60,582
TOTAL ASSETS	$ 2,651,654	$ 60,582	$ 2,712,236
LIABILITIES:			
Accounts payable	$ 919,606	$ --	$ 919,606
Due to the State General Fund	2,550,000	--	2,550,000
Interest payable	--	225,416	225,416
Noncurrent liabilities			
Due in more than one year	--	14,221,329	14,221,329
TOTAL LIABILITIES	$ 3,469,606	$ 14,446,745	$ 17,916,351
FUND BALANCE/NET ASSETS:			
Fund balance			
Unreserved	(817,952)	817,952	--
TOTAL LIABILITIES AND FUND BALANCE	$ 2,651,654		
NET ASSETS			
Invested in capital assets	--	60,582	60,582
Unrestricted		(14,446,745)	(15,264,697)
TOTAL		$ (14,386,163)	$ (15,204,115)

STATEMENT of ACTIVITIES and GOVERNMENTAL FUND REVENUES, EXPENDITURES and CHANGES in FUND BALANCE

FOR THE YEAR ENDED JUNE 30, 2006	STEM CELL FUND	ADJUSTMENTS (NOTE 3)	STATEMENT OF ACTIVITIES
REVENUES:			
Program revenues:			
Operating grants and contributions			
Private donor grants	$ 350,000	$ --	$ 350,000
General revenues:			
Investment earnings	73,716	--	73,716
TOTAL REVENUES	$ 423,716	--	$ 423,716
EXPENDITURES/EXPENSES:			
Current:			
State operations	$ 4,065,419	$ 150,565	$ 4,215,984
Research grants	13,633,862	--	13,633,862
Interest	--	225,416	225,416
Depreciation	--	10,182	10,182
TOTAL EXPENDITURES/EXPENSES	$ 17,699,281	$ 386,163	$ 18,085,444
EXCESS OF EXPENDITURES OVER REVENUES	(17,275,565)		
OTHER FINANCING SOURCES:			
Bond anticipation note issuance	14,000,000	(14,000,000)	--
NET CHANGE IN FUND BALANCE	(3,275,565)	3,275,565	
CHANGE IN NET ASSETS	--	(14,386,163)	(17,661,728)
FUND BALANCE/NET ASSETS, BEGINNING OF YEAR	2,457,613	--	2,457,613
FUND BALANCE/NET ASSETS (DEFICIT), YEAR END	$ (817,952)	$ (14,386,163)	$ (15,204,115)

See accompanying Notes to the Financial Statements

STATEMENT of REVENUES, EXPENDITURES and CHANGES in FUND BALANCE—BUDGET and ACTUAL

FOR THE YEAR ENDED JUNE 30, 2006	ORIGINAL BUDGET	STEM CELL FUND	VARIANCE: POS/(NEG)
EXPENDITURES/EXPENSES:			
Current:			
State Operations	$ 5,959,799	$ 4,065,419	$ 1,894,380
Research Grants	12,112,251	13,633,862	(1,521,611)
TOTAL EXPENDITURES/EXPENSES	$ 18,072,050	17,699,281	$ 372,769

NOTES to the FINANCIAL STATEMENTS

For the Fiscal Year Ended June 30, 2006

NOTE 1—THE FINANCIAL REPORTING ENTITY

The California Institute for Regenerative Medicine (CIRM) is an agency of the State of California that was established with the passage of Proposition 71, creating the California Stem Cell Research and Cures Act (the Act). The statewide ballot measure, which provided $3 billion in funding for stem cell research at California universities and research institutions, was approved by California voters on November 2, 2004, and called for the establishment of a new state agency to make grants and provide loans for stem cell research, research facilities and other vital research opportunities.

CIRM was established for the purpose of issuing bonds to support stem cell research for the development of life-saving regenerative medical treatments and cures. CIRM is authorized under the Act to grant an average of $295 million per year in funds over a 10-year period to fund stem cell research and dedicated facilities for scientists at California's universities and other advanced medical research facilities throughout the state.

Due to the financial and operational relationship between CIRM and the State of California (State), CIRM meets the definition of a component unit of the State.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Basis of Accounting/Fund Financial Statements

Basis of accounting refers to when revenues and expenditures or expenses are recognized in the accounts and reported in the financial statements.

The government-wide financial statements (i.e. the statement of net assets and the statement of activities) report information on all of the activities of CIRM. The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows.

Separate financial statements are provided for CIRM's operating fund, the Stem Cell Fund, a governmental fund. The Stem Cell fund's financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collected within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, revenues are considered to be available if they are collected within 12 months of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

B. Accounting Principles

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America and the accounts are maintained by CIRM in accordance with the principles of fund accounting under standards issued by the Governmental Accounting Standards Board (GASB). Fund accounting is the procedure by which resources for various purposes are classified for accounting and reporting purposes into funds established in accordance with their nature and purpose. The operations of the fund are accounted for with a separate set of self-balancing accounts that comprise its assets, liabilities, fund equity, revenues, and expenditures.

C. Cash and Investments

Cash and investments are reported at amortized cost, which approximates fair value. CIRM maintains its resources in the Surplus Money Investment Fund (SMIF) and operating accounts, which are part of the State Treasurer's pooled investment program. The resources of the SMIF are invested through the Treasurer's Pooled Money Investment Account (PMIA). Investments of the PMIA are restricted by State statutes and regulatory

oversight is provided by the Pooled Money Investment Board. Investment income is distributed to the stem cell fund quarterly based on the Fund's relative participation during the quarter. As of June 30, 2006, the weighted average maturity of the PMIA was approximately 152 days. Neither the SMIF or PMIA are rated. Additional information regarding investment risks, including interest rate risk, credit risk and foreign-currency risk of the PMIA can be found in the State's financial statements.

At June 30, 2006, $1,161,000 was invested in SMIF and $1,490,574 was held in the State Treasury.

D. Capital Assets and Depreciation

In accordance with the State's capitalization policy, capital assets are defined as assets with a useful life of at least one year and a unit acquisition cost of at least $5,000. Capital assets are reported at historical cost. Equipment is depreciated using the straight-line method over an estimated useful life of 5 years. For the year ended June 30, 2006, capital asset additions totaled $70,764 and depreciation expense totaled $10,182, for an ending capital asset balance, net of accumulated depreciation of $60,582. There was no capital asset activity in fiscal year 2005.

E. Due to Other Funds

Pursuant to The Act, the State Director of Finance is authorized to loan to CIRM, from the State general fund, amounts not to exceed the amount of the unsold bonds that have been authorized by the ICOC to be issued for the purpose of carrying out the provisions of the Act. At June 30, 2006, $2,550,000 represents amounts payable to the State general fund pursuant to the loan provisions outlined in the Act. As of June 30, 2006, interest of $78,034 has accrued on the loan pursuant to the California Government Code.

F. Compensated Absences

The statement of net assets includes compensated absences of $221,329, which represent vested unpaid vacation and annual leave. Unused sick leave balances are not accrued as they do not vest to employees. Compensated absences are not considered fund liabilities as they will not be paid with current financial resources.

G. Classification of Net Assets and Fund Balance

The difference between assets and liabilities is reported as "fund balance" in the Stem Cell Fund balance sheet and as "net assets" in the government-wide statement of net assets. The following describes the categories of net assets and fund balances:

Net assets invested in capital assets—represents capital assets, net of accumulated depreciation.

The remaining balances are reported as unrestricted net assets (deficit) and unreserved fund balance (deficit).

H. Risk Management

CIRM participates in the State's self-insurance programs. The State is primarily self-insured against loss or liability. The State generally does not maintain reserves; losses are covered by appropriations in the year in which the payment occurs or it becomes fixed and determinable. Information regarding the State's risk management programs is included in the State's Comprehensive Annual Financial Report.

I. Budgetary Control

The State prepares an annual budget, which is prepared on the modified accrual basis of accounting. Revenues are not included in the annual budget bill adopted by the State Legislature. Under State law, the State cannot adopt a spending plan that exceeds estimated revenues. Under the State Constitution, money may be withdrawn from the Treasury only through a legal appropriation. Appropriations for CIRM continue indefinitely. The legal level of budgetary control is the fund level.

J. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the reporting date and revenues and expenses during the reporting period. Actual results could differ from those estimates.

NOTE 3—RECONCILIATION OF GOVERNMENTAL FUND FINANCIAL STATEMENTS AND GOVERNMENT-WIDE FINANCIAL STATEMENTS

The fund balance (deficit) of the Stem Cell fund differs from net assets (deficit) of governmental activities primarily because of the long-term economic resources focus of the statement of net assets versus the current financial resources focus of the governmental fund balance sheet. At June 30, 2006, the differences included the following:

FUND BALANCE (DEFICIT)	$ (817,952)

Capital assets used in the governmental activities are not financial resources, and therefore are not reported in the governmental funds.

Capital assets	$ 70,764
Less: accumulated depreciation	(10,182)
	$ 60,582

Long-term liabilities are not due and payable in the current period, and therefore are not reported in the funds.

Bond anticipation notes	(14,000,000)
Accrued compensated absences	(221,329)
Interest payable	(225,416)
NET ASSETS (DEFICIT)	$(15,204,115)

The net change in fund balance for governmental fund differs from the change in net assets for governmental activities primarily because of the long-term economic resources focus of the statement of activities versus the current financial resources focus of the governmental fund. The differences are described below:

NET CHANGE IN FUND BALANCE	$ (3,275,565)

Governmental fund reports capital outlay as expenditures. In the statement of activities however, the cost of capital assets is allocated over their estimated useful lives as depreciation expense.

Capital outlay	70,764
Depreciation expense	(10,182)
	60,582

Some expenses reported in the statement of activities do not require the use of current financial resources, and therefore are not reported as expenditures in the governmental fund:

Change in compensated absences	(221,329)
Change in interest payable	(225,416)

Long-term debt proceeds provide current financial resources to the governmental fund, but issuing debt increases long-term liabilities in the statement of net assets

Bond anticipation notes issuance.	(14,000,000)
CHANGE IN NET ASSETS	$(17,661,728)

NOTE 4—LONG TERM LIABILITIES

Bond anticipation notes in the amount of $14,000,000 were issued at various times during the year. The notes bear interest at rates ranging from 65%–100% of LIBOR, resetting on the first business day of each month. Each note specifies a maximum interest rate, which ranges from 4.5%–5.0%. Repayment of the bond anticipation notes will occur upon the issuance of bonds authorized by the Act. The bond anticipation notes will not be repaid if such bonds cannot be issued within a period of 10 years from the issuance of the bond anticipation notes. At June 30, 2006, interest payable totaled $147,382. Changes in long-term liabilities are summarized below.

	BALANCE JULY 1, 2005	ADDITIONS	BALANCE JULY 1, 2006
Bond anticipation notes	--	$ 14,000,000	$ 14,000,000
Compensated Absences	--	221,329	221,329
TOTAL LONG-TERM LIABILITIES	--	$ 14,221,329	$ 14,221,329

There were no amounts due within one year.

NOTE 5—OFFICE LEASE

Effective November 2006, CIRM took occupancy of office space in San Francisco, California for use as its headquarters. The San Francisco office space was acquired in response to a competitive bidding process. As part of the City of San Francisco's proposal, the City provides to CIRM approximately 20,000 square feet of premium office space free of charge for the next 10 years. In addition to the office space, a substantial amount of other incentives were included in the proposal. The fair value of the office space and other incentives totaled $1,000,000 for the year ended June 30, 2006.

NOTE 6—GRANTS AND DONATIONS

The Act authorized CIRM to receive gifts that may be used for its operations. In June 2006, CIRM received a grant of $350,000 from the Richard and Rhoda Goldman Foundation to support scientific activities of the institute in 2006. CIRM management believes it has complied with this requirement. The provisions of the grant further require a report on the program be submitted to the Foundation prior to April 30, 2007.

NOTE 7—RELATED PARTY TRANSACTIONS

As a component unit of the State of California, other State agencies provided CIRM with various services during the year ended June 30, 2006. The State Controller's Office provided administrative and accounting support, the Department of Justice provided legal support, the University of California, San Francisco provided human resources staff and the Stephen P. Teale Data Center provided information technology support. Amounts paid for these services for the year ended June 30, 2006 are summarized below:

State Controller's Office	$ 132,845
Department of Justice	291,064
University of California, San Francisco	71,694
Stephen P. Teale Data Center	15,355
TOTAL	$ 510,958

NOTE 8—RETIREMENT SAVINGS PLAN

The State of California has established the Alternate Retirement Program (ARP), a retirement program for specified State of California employees hired on or after August 11, 2004. Under the ARP, employees do not earn retirement service credit with the California Public Employees' Retirement System of the State of California (Ca1PERS) during their first two years of employment with the State. Rather, they are automatically enrolled in a retirement savings program, in which an ARP account is automatically set up for each employee as a 401(a) plan—a type of retirement savings account governed by federal IRS rules. During this two-year period, approximately five percent of each employee's paycheck is deducted each month (pre-tax) and deposited in the ARP account. At the end of the two-year period, the employee begins to earn retirement credit as a CalPERS Tier I member.

Money in the ARP account, plus any interest, remains in that account. The employee will have a 90-day window to exercise a one-time option to (1) buy previous retirement service credit for time in ARP (the State will fund the portion of the liability not paid for the by the employee's ARP account); (2) receive a lump-sum distribution; or (3) transfer all funds into a 401(k) account within the Savings Plus Program. Participant's failure to designate an option will result in automatic enrollment in option 3.

Since all CIRM employees as of June 30, 2006 were hired after the implementation of ARP, most CIRM employees participate in this program and are not eligible to participate in Ca1PERS.

CalPERS issues a separate comprehensive annual financial report that includes financial statements and required supplementary information. Copies of the CalPERS annual financial report may be obtained from the Ca1PERS Executive Office, 400 P Street, Sacramento, California 95814.

NOTE 9—CONTINGENCY

CIRM and its officers are currently defendants in three separate legal actions. One of these cases was dismissed in October 2005 and is now pending appeal. The two remaining actions were consolidated into one action in October 2005. Collectively, the two actions challenged the constitutionality of Proposition 71. On May 12, 2006, the Superior Court issued a single validation judgment upholding the constitutionality of Proposition 71 and the validity of the bonds against all challenges. The two sets of plaintiffs filed two separate appeals of the judgment. The First District Court of Appeals consolidated the two appeals for briefing and oral argument and granted calendar preference. The consolidated case was argued before the First District Court of Appeal on February 14, 2007, and on February 27, 2007, the Court affirmed the Superior Court judgment in CIRM's favor in full, in a unanimous decision. Should the plaintiffs seek review by the California Supreme Court, they must do so within 40 days. Review by the Supreme Court is discretionary. Due to the uncertain nature of these legal actions, management was unable to estimate any potential range of loss or impact on CIRM's proposed operations.

NOTE 10—SUBSEQUENT EVENT

In July 2006, Governor Arnold Schwarzenegger authorized a State general fund loan of $150,000,000 to CIRM in accordance with Section 125291.60 of the Act. Pursuant to the Act, the State Director of Finance is authorized to loan to CIRM, from the State general fund, amounts not to exceed the amount of the unsold bonds that have been authorized by the ICOC to be issued for the purpose of carrying out the provisions of the Act. CIRM is required to repay the principal amount borrowed plus interest equal to the amount that would have been earned in the PMIA.

In addition, subsequent to June 30, 2006, CIRM sold an additional $31,000,000 of bond anticipation notes to private individuals and philanthropic foundations. The proceeds of the general fund loan and the bond anticipation notes will be used to finance stem cell research in accordance with the Act. These loans will be repaid with the proceeds of bonds authorized by the Act.

DOLBY GRANT

Schedule of Revenues, Expenditures and Available Resources

FOR THE YEAR ENDED JUNE 30:	DOLBY GRANT
REVENUES:	
Investment earnings	$ 73,716
TOTAL REVENUES	73,716
EXPENDITURES:	
Current:	
Salaries and wages	2,341,661
Operating expenses	
Interagency and external agreements	707,932
ICOC meetings	123,355
Scientific meetings	73,472
Workgroup meetings	166,809
Other travel	41,197
Furniture and equipment	264,161
Information technology	122,654
Dues, memberships and publications	14,425
Office supplies	16,018
Printing	11,419
Telephone	36,988
Postage	6,595
Facilities operations	26,414
Other	19,070
TOTAL EXPENDITURES	$ 3,972,170
EXCESS OF EXPENDITURES OVER REVENUES	(3,898,454)
AVAILABLE RESOURCES, BEGINNING OF YEAR	4,107,903
AVAILABLE RESOURCES, YEAR END	$ 209,449

INDEPENDENT AUDITOR'S REPORT

Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with Governmental Auditing Standards

To the Members of the Independent Citizen's Oversight Committee, CIRM, Sacramento, California

We have audited the financial statements governmental activities and major fund of the California Institute for Regenerative Medicine (CIRM) as of and for the year ended June 30, 2006, which collectively comprise CIRM's basic financial statements and have issued our report thereon dated January 5, 2007. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States.

INTERNAL CONTROL OVER FINANCIAL REPORTING

In planning and performing our audit, we considered CIRM's internal control over financial reporting in order to determine our auditing procedures for the purpose of expressing our opinions on the financial statements and not to provide an opinion on the internal control over financial reporting. Our consideration of the internal control over financial reporting would not necessarily disclose all matters in the internal control that might be material weaknesses. A material weakness is a reportable condition in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements caused by error or fraud in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. We noted no matters involving the internal control over financial reporting and its operation that we consider to be material weaknesses.

COMPLIANCE AND OTHER MATTERS

As part of obtaining reasonable assurance about whether CIRM's financial statements are free of material misstatement, we performed tests of it's compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards.*

This report is intended solely for the information and use of the Independent Citizen's Oversight Committee and management and is not intended to be and should not be used by anyone other than this specified party.

Macias Gini & O'Connell LLP

Macias, Gini & O'Connell, LLP
Certified Public Accountants

SACRAMENTO, CALIFORNIA
JANUARY 5, 2007

PHOTOGRAPHY

Chairman and Presidents photo *(page 3)*:
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Christina Tu, Sue & Bill Gross Stem Cell Research Center (University of California, Irvine)
Institute for Regeneration Medicine (University of California, San Francisco)

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American Diabetes Association
Alzheimer's Association
John E. Smith (spinal cord injury patients)
Research for Cure
The ALS Association

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