

# HEALTHSPAN

**Buck Institute for Research on Aging**

## Buck Institute to House First-of-Its-Kind Stem Cell Bank

When you need money you go to the bank. But where do scientists go when they need high quality stem cells for their research? Starting this summer they'll come to the Buck Institute – where those cells will be created, stored and distributed to scientists in California and around the world.

The bank, funded by the California Institute for Regenerative Medicine (CIRM), will focus on induced pluripotent stem cells (iPSCs). An iPSC is a cell taken from any tissue and then is genetically reengineered to behave like an embryonic stem cell. As the name implies, these cells are pluripotent, which means that they have the ability to form all adult cell types. In this case, the iPSCs will be created from tissue samples from 3,000 people representing 11 diseases. The objective is to create “disease-in-a-dish” research models that could quickly lead to cures for a wide range of maladies.

CIRM awarded \$16 million to Wisconsin-based Cellular Dynamics International (CDI) to take the different tissue samples and reengineer them into 9,000 cell lines. The stem cell agency also awarded nearly \$10 million to the Coriell Institute for Medical Research to store and distribute the cell lines. Both companies will lease a total of about 4,500 square feet of space in the Buck's new Regenerative Medicine Research Center and hire staff for their new operations.

“We looked all over California for options for our new facility,” said Tom Novak, PhD, Vice President of Strategic Partnerships at CDI. “The Buck was the best in terms of scientific support services, facilities and opportunities for us to interact and collaborate with top academic researchers in the field.”

In addition to having new scientific collaborators on site, the Buck Institute will benefit financially. “The five-year leases will help diversify the Institute's revenue stream, which is heavily dependent on federal research grants which are in sharp decline,” said Ralph O'Rear, the Institute's Vice Pres-



**The Buck Institute's Ralph O'Rear (left) and CDI's Tom Novak look at lab space in the Regenerative Medicine Research facility**

ident for Facilities and Planning, who was involved in negotiations with both outside organizations.

“CDI is a pioneer in stem cell technology which makes them a perfect tenant for our new research center,” said Brian Kennedy, PhD, President and CEO of the Buck Institute. “Their work and this new initiative have the potential to revolutionize the treatment of a myriad of diseases. We are proud they chose to work with us -- Buck faculty are looking forward to collaborating with them on new research.”

CIRM has two overall objectives in establishing the new stem cell bank. They want to help scientists understand the basic biology of the 11 targeted diseases, which include Alzheimer's, heart disease, lung fibrosis and autism. They also want to facilitate the screening of compounds and existing drugs that could be used to treat the conditions. The derived cells will be genetically identical to the people who donated tissue samples.

### Community Seminar!

**The Science of Caloric Restriction: What's to be gained, what's to be learned?**

Wednesday June 5, 2013  
10:30 a.m. – Noon  
Drexler Auditorium

This free seminar will feature Buck faculty Pankaj Kapahi, PhD, who studies the role of nutrition and energy metabolism in lifespan and disease, and Paul McGlothlin, Vice President for Research of the CR Society International.

SEATING IS LIMITED.  
REGISTRATION REQUIRED.  
seminars@buckinstitute.org  
or 415-209-2045

### Join the Buck Institute!

Become a Member of the Buck by June 30 (or bring a new Member to the Institute) and receive an invitation to an exclusive Membership event this fall. Contact Masha Shifs, Director of Regional Development @ 415-209-2239 or mshifs@buckinstitute.org for details.

# April 20 Public Events Draw 500+ People to Buck Institute



Scientist as Artist, an exhibit of 20 extraordinary images created by Buck scientists, premiered on April 20 and will be on display through October 2013. All of the images are connected to our mission to extend healthspan and can be viewed during regularly scheduled Thursday morning tours. Reservations required. Please call 415-209-2245 to reserve a space.



## Science: PAST/PRESENT/FUTURE

### Coming Soon to the Buck's New Learning Center



A new after-school/Saturday morning science program for middle and high school students and their parents is being planned for the new Buck Learning Center. Participants will learn the basics of genetics and run DNA fingerprinting gels. They'll observe stem cell and brain cell cultures while being introduced to the promise of regenerative medicine. The program will also touch on forensic analysis, wildlife preservation and science aimed at helping humans live longer, healthier lives.

The hands-on program will begin this summer. Information will be posted on the Buck website. Those interested in registering for the classes should contact the Buck's K-12 Education Coordinator Julie Mangada: [jmangada@buckinstitute.org](mailto:jmangada@buckinstitute.org).

# Major Gifts Support Growth and New Programs

## Rosenberg Fundraising Challenge Underway

Richard “Dick” Rosenberg – retired chair and CEO of Bank of America and well known for his philanthropic activities in the Bay area – concluded his final board term as a Buck Trustee last December.



**Richard Rosenberg**

As he completed his board responsibilities, he took action that underscored his long-term commitment to be both a steward of the Buck’s financial stability and a supporter of its growth. He and his wife Barbara have committed to a challenge gift – they will contribute \$250,000 to the Institute if the Buck can raise the same amount in new gifts.

The goal is to meet the challenge by June 30, 2013, the end of the Institute’s fiscal year. “We are making great progress toward meeting this dollar-for-dollar matching gift,” said James Edgar, Chair of the Buck Institute Board of Trustees. “With our deadline approaching, we need help. Every gift matters to the success of this campaign. I am asking everyone to help us leverage the Rosenbergs’ generosity. It’s a great opportunity for our supporters to double the size of their gifts without having to write a bigger check.”

The Rosenberg donation will enable the Buck to support its scientists as they test promising new theories aimed at unraveling the connection between normal aging and chronic disease. In addition, the Buck’s newly expanded education program will benefit greatly from the \$500,000 that can be raised through this challenge. **“Given the dramatic decline in federal funding for research, this challenge gift is a perfect opportunity for everyone to step up to the plate and vote with their checkbooks to show support for our science,”** said Brian Kennedy, PhD, Buck Institute President and CEO. “I am very grateful to Dick and Barbara for their generosity. I am honored to have worked so closely with Dick when he was on our board.”

Rosenberg lent a rare wealth of experience and expertise during the Buck’s formative years. He chaired the Finance Committee and was Board Treasurer during a time of great institutional transition and growth. The Buck bylaws limit trustees to three consecutive three-year terms of service.

For questions about the Rosenberg Challenge Gift, please contact Blair Winn, Director of Resource Development: 415-209-2267, [bwinn@buckinstitute.org](mailto:bwinn@buckinstitute.org).

The ground floor of the new Regenerative Medicine Research facility has been named in honor of Marilyn Wanlass, whose generosity has supported many Buck programs. In past years, the Wanlass Classroom and Brune-Harris Conference room have also been named in her honor.



Buck Trustee Larry Rosenberger and his grandsons Kyle and Tate cut the ribbon on the new Buck Learning Center on April 20. A \$500,000 gift from Larry and Diane Rosenberger funded construction of the new 1,400 square-foot facility.



## Buck Institute for Research on Aging

8001 Redwood Blvd.  
Novato, CA 94945

Free, docent-led tours  
take place Thursday mornings.

To reserve a date,  
please call 415.209.2245.

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The Buck Institute is the  
nation's first independent  
research facility focused  
solely on understanding the  
connection between  
aging and chronic disease.

[www.theBuck.org](http://www.theBuck.org)

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## Focus on Postdoctoral Fellow: Marco Demaria, PhD

"I always knew that I wanted to work here," says postdoctoral fellow Marco Demaria, PhD. Marco had several interviews scheduled for his first trip to California, but the Buck Institute was a priority. "It was my first interview. I met with the staff, presented my work, and all the other interviews did not matter anymore."

Marco grew up in Cuneo, Italy, where he showed a propensity for science at a young age. While attending the University of Torino, he discovered a passion for cancer research. But during his PhD study, Marco came to the realization that he was ready to leave Italy. "I wanted to be in a country where research was more of a priority," he says. He wanted to continue his work in cancer cell metabolism, but after reading studies published by Buck faculty Judith Campisi, PhD, renowned cancer researcher and senescence pioneer, Demaria became intrigued by the phenomenon of cellular senescence. Cellular senescence is

a unique cell type that universally stops dividing in the presence of particular stresses to the body. The possibility of this novel cell type having an influence on the growth and promotion of cancer cells presented his dream project.

At the Buck, Demaria began working with a novel mouse model of senescence and completed his PhD. "I had been very focused on the molecular aspects of biology without having a broader idea of the complexities of an organism... I am learning much about disease that I did not know before," he says. Demaria excitedly describes his recent finding that one of the natural chemicals secreted from senescent cells can be applied topically to help to heal skin. He also collaborates with other scientists on bone regeneration, muscular regeneration, neuroregeneration and cutaneous wound-healing research.

Demaria is not only a valuable scientific resource to his peers, but as acting president of the Buck's Postdoctoral



**Marco Demaria, PhD**

Association he's developed into a leader among them. Demaria aspires to one day start his own lab with the hope of having direct impact on patient care.

When he is away from the lab, Marco enjoys playing soccer and music. If he is not up at 6 a.m. watching an international match, he is commuting to San Francisco to play on his community football team, "Hardly Athletic." In Italy, he played drums in a "post-rock" band. (Out of respect for his neighbors he left his drums behind). He is currently learning guitar and keyboard. That is not surprising, since Demaria describes himself with a grin as "a learner - I like to learn all the time."