

'This is much more than just bricks and mortar. This is an institute of hope—hope for millions of people who suffer from Alzheimer's, from cancer, from AIDS, from Parkinson's disease and many other diseases.'

—California Gov. Arnold Schwarzenegger



From left, Keck School of Medicine Dean Carmen A. Puliafito, California Gov. Arnold Schwarzenegger, Broad Foundation founders Edythe and Eli Broad, CIRM Chair Robert Klein and USC President C. L. Max Nikias formally open the new center before a crush of media and a crowd of hundreds of USC staff, faculty and students.

USC fetes opening of Eli and Edythe Broad CIRM Center

By Imelda Valenzuela

California Gov. Arnold Schwarzenegger joined USC administrators, trustees, elected public officials and over 150 invited guests in the much-anticipated dedication and ribbon-cutting ceremony for the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC held Oct. 29.

"We are all gathering this morning to celebrate the stem

cell research center here at USC," said Schwarzenegger. "Behind me we see this beautiful building with great architecture, but this is much more than just bricks and mortar. This is an institute of hope—hope for millions of people who suffer from Alzheimer's, from cancer, from AIDS, from Parkinson's disease and many other diseases. Here, 18 of the finest scientists in the world along

with their research teams will expand the frontiers of science and medicine in pursuit of life-saving cures."

USC President C. L. Max Nikias and Keck School of Medicine of USC Dean Carmen A. Puliafito hosted the dedication ceremony.

Puliafito introduced the governor by recognizing his great courage in supporting the Stem Cell Research and Cures Initiative known as Proposition 71. "In the fall of 2004, the future of stem cell research in this country was in great peril. It took great courage for the newly elected governor of California to oppose the policy of his party and his President by supporting the Stem Cell Research and Cures Initiative. Our governor supported the preservation of human life and the reversal of disability by supporting the promise of stem cell research."

Nikias characterized the day as "one of the most momentous days in the history of our Health Sciences Campus and our Keck School of Medicine." He said, "This new center carries out our promise to society. In the future historians will search for the turning point in the age of medicine and biology. And when they do, they will look to this place, they will look to this time, they will look to this CIRM (California Institute for Regenerative Medicine) center, and they will look to Eli



Above, broadcast news crews, photographers and print journalists gather to cover the event.

New center spurs collaboration, discoveries and expansion

By Carrie St. Michel

Outwardly, the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC is a striking, architectural eye-catcher. From an interior perspective, facilitating collaboration drove the design, with an eye toward catching the immensely promising potential of stem cell research.

"I just like the whole building," said a sincerely pleased Martin Pera, professor and founding director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC.

Pera, who observed first-hand the building's trans-

formation from rendering to reality, is a fan of both its form and function. "With its black granite and glass, the building is very distinctive and modern looking," he said. "In terms of layout, it's extremely well-suited to the functions of our scientists. I think it will be a fantastic work environment."

And that work—clustered under the complex catchall of stem cell research—is the pressing priority shared by Pera and the other preeminent investigators who now call the building home. Given the inherent challenges that accompany this ever-evolving field, the five-floored, 87,500-square-foot facility was designed

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Left (from left), Eli and Edythe Broad and Keck School of Medicine Dean Carmen A. Puliafito prepare to take the stage at the start of the Oct. 29 ceremony opening the new building.

potential to revolutionize medicine," said Eli Broad. "I truly believe that biotechnology is one of the areas that are the economic future of this city and this state. We want to be a magnet for biotech talent and business so we all have high expectations for this new center for stem cell research and regenerative medicine here at USC."

Construction of the \$80 million, five-story, 87,500-square-foot, "green"-certified building located at 1425 N. San Pablo Ave. started almost exactly two years ago. The building will house an estimated 200 researchers.

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and Edythe Broad. And they will see that what we have done together has changed not only this university, but also the world."

Eli and Edythe Broad, the building's namesakes and primary donors, gave \$30 million toward its development, which stands as one of the largest gifts given to the Keck School of Medicine of USC in recent years.

"There's no question that stem cell research has the

Walker Trust continues legacy of aid to Keck students

By Imelda Valenzuela

Some \$300,000 in scholarships awarded to 30 Keck School of Medicine of USC students from the George and Zelda Walker Trust were celebrated at a reception at the Edmondson Faculty Center on Sept. 29.

The students received the scholarships in \$10,000 increments from the trust.

George and Zelda Walker both attended USC in the early 1930s, married, and lived in Pasadena. George Walker, who passed away in 1975, had a successful career in the insurance business, and, as an insurance provider for the California Hospital Association, became closely involved with the health care industry. It was through this involvement that he and Zelda (who died in 2004) decided to dedicate a portion of their trust to the Keck School.

"I stand here mostly to express my sincere gratitude on behalf of the entire Keck School family for the generosity and the visionary gift that the Walker Trust has been able to provide," said Henri Ford, vice dean of medical education for the Keck School and chief of surgery, Childrens Hospital Los Angeles, at the event.

"There's no need to tell you how expensive it is to put



Scholarship recipients meet trustees from the Zelda and George Walker Trust at a reception on campus on Sept. 29. From left David Larsen, Trustee Gerald Sullivan, Lauren Michelle Friedman, Trustee Eli Dubrow, Neda Roosta, Barbara Danielle Rubino and Crystal Marie Ives.

a student through medical school, so whatever we can do to help and lower the debt burden for our students is extremely important to us," Ford said. He added that scholarships allow the Keck School to be competitive among other medical schools, and provide the school with the ability to better recruit and attract "the very best and most talented students."

"This \$300,000 allows us

to grant scholarships to these talented students, who will become great physicians and carry on the Keck legacy," he said.

Keck student Crystal Ives, who is in the Dean's Research Fifth-Year Scholars Program, created by Keck School Dean Carmen A. Puliafito, has received \$30,000 in three years from the Walker Trust.

"This has been the biggest scholarship that I've received

my whole time at USC—it's almost a full year of tuition," said Ives.

She added, "It's been phenomenal for me and my husband because he's also at USC studying pharmacy and we're sort of a double debt family. I never wanted to have to make a choice of what specialty to go into based on money. I feel like I don't have to. We'll be able to pay back out debt and we'll be ok."

"There's no need to tell you how expensive it is to put a student through medical school, so whatever we can do to help and lower the debt burden for our students is extremely important to us."

— Henri Ford, vice dean of medical education for the Keck School

University Kidney Research Organization to honor Keck School Dean Carmen A. Puliafito

University Kidney Research Organization (UKRO) will honor Keck School of Medicine Dean Carmen A. Puliafito at its annual dinner to fund kidney research on Friday, Dec. 10, at the Beverly Hilton Hotel.

UKRO is a Los Angeles-based nonprofit organization supporting medical research related to the prevention, treatment and eradication of all forms of kidney disease.

Puliafito will be honored along with singer/songwriter Natalie Cole and Ben J. Lipps,

CEO and chairman of the board of Fresenius Medical Care, for their contributions and personal commitment to raise awareness about the importance of research in fighting kidney disease.

"With one in nine adults afflicted with some form of kidney disease, it is imperative that the nation make kidney research a major priority," said UKRO president Kenneth Kleinberg.

Puliafito will receive the Leadership Award for strengthening and fostering

research at the Keck School. Vaughn A. Starnes, Distinguished Professor and chair, Department of Surgery, at the Keck School, will present Dean Puliafito with his award.

Cole will receive the Spirit of Life Award, presented by Phil McGraw, *New York Times* best-selling author and daytime television talk show host. Cole received a kidney transplant in May 2009 after 10 months on dialysis. She currently serves as a national spokesperson for UKRO.

Lipps will receive the

Outstanding Achievement in Business and Industry Award presented by Michael Lazarus, senior executive vice president and Emeritus CMO for Fresenius. Under Lipps' leadership, Fresenius has become a worldwide industry leader in the production of medical supplies for renal dialysis.

Additionally, Anne Riquier-Brisson will receive the John McKay Fellowship in Renal Research at USC.

Over 26 million people in the United States are believed to suffer from some type of kidney disease, and millions of others are at increased risk, according to the National Kidney Foundation. The *Wall*

Street Journal's Marketwatch reported in 2009 that Medicare costs for kidney disease are \$72,000 per patient annually.

Through project grants and other means, UKRO contributes to kidney research at various institutions throughout Southern California, and hopes to secure contributions sufficient to establish Los Angeles as a center for explorations to identify the causes, improve existing treatments, and—ultimately—find a cure for all forms of kidney disease.

For tickets or more information, please contact Mann Productions at (323) 314-7000 or Mann. Productions@sbcglobal.net.

The Weekly

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Associate Senior Vice President, Health Sciences Public Relations and Marketing: Jane Brust

Executive Director of Communications and Marketing: Ina Fried

Editor: Jon Nalick

Contributors: Eva Blaauw, Tania Chatila, Meghan Lewit, Carol Matthieu, Katie Neith, Sara Reeve, Leslie Ridgeway and Imelda Valenzuela

Senior Vice President, University Relations: Martha Harris

Phone: 323-442-2830 Fax: 323-442-2832

E-mail: hscwkly@usc.edu Web: theweekly.usc.edu RSS: <http://www.usc.edu/hscw>

It's Not Too Late to Give

You can still participate in the 2010 Good Neighbors Campaign. More than 5,300 USC faculty and staff members have signed up to date, but more individuals are needed to reach the goal of \$1.3 million. While the 2010 campaign officially ended on Oct. 31, donations are accepted until the end of the year. Have you pledged yet?

As of Nov. 1, 2010, these are the figures for this year's campaign.

Total Funds Raised to Date: \$1,160,000

Total Donors: 5,300

University-wide Participation: 35%

1% Donors (Trojans giving one percent or more of their salaries): 500

From 1995-2009, USC faculty and staff have raised more than \$11 million to fund local programs and organizations that enhance our communities.

USC hospitals CEO talks shop at Executive Leadership Series

By Tania Chatila

It doesn't take much to run into Mitch Creem, chief executive officer of USC University Hospital and USC Norris Cancer Hospital.

He's often seen walking the hallways of his hospitals, chatting with employees and greeting visitors at the front door. He hosts casual lunches with staff members to talk about what's on their minds. He listens to patient concerns and welcomes ideas for improvement.

These are the hallmarks of his management style, and it's how he keeps his eye on business.

"It's the little things that matter, the connections you make with people," Creem said. "I feel like the biggest cheerleader on Earth. I spend every day of my job encouraging, lifting spirits, building hope."

Creem shared this sentiment along with other valuable leadership insights at an Oct. 26 Executive Leadership Series event hosted by the USC Professional Development office. The two-hour event attended by nearly 150 guests was held at University Park Campus' Davidson Conference Center. It highlighted Creem's 27 years of management experience in health care, and included a special "fireside chat" with leadership guru and Marshall School of Business professor Warren Bennis.

Creem opened the morning discussing the dynamics before and after USC's acquisition of USC University Hospital and USC Norris Cancer Hospital from Tenet Healthcare Corp. on April 1, 2009.

"At the time, we were trying to figure out how we could propel USC to the



USC University Hospital and USC Norris Cancer Hospital Chief Executive Officer Mitch Creem (right) talks about his management style with leadership guru and Marshall School of Business professor Warren Bennis.

next stage," said Creem, who came to the University in June 2008. With Tenet struggling with its relationship with USC and its faculty, the University realized its opportunity to join the ranks of top tier academia lay within the hospitals, and creating an academic medical center of its own.

Creem went on to explain the host of challenges he faced following the acquisition in transitioning 1,600 employees and dozens of faculty members from the old Tenet culture to a new vision for USC medicine. Morale was low among staff, IT systems were scattered, the facilities were in need of upgrades, and new governance was suddenly in place.

Still, with the help of a new leadership team, Creem was able to turn things around—growing revenue by more than \$68 million, increasing admissions, hiring more than 600 new employees and recruiting some 27 new faculty physicians. It's something he'd done before at other aca-

demical medical institutions as well, like Tufts-New England Medical Center, Beth Israel Deaconess Medical Center and UCLA.

"It's about understanding at a deeper level that we all need to work together," Creem said, talking about the cooperative effort among staff and physicians to navigate a successful transition. He talked about the importance of reminding people of their purpose, something that hit home with Bennis.

"It sounds almost trivial, but it's so crucial to keep people understanding what it is that's important," Bennis said. "After years on a job, it's so easy to just dial in sometimes. You have to remind

people of the mission. I thought that was very powerful."

Creem also emphasized his own personal management style—communicating with employees, setting tasks, following through with plans and making staff the number one priority. "It's about living and communicating your own personal values. ... You have to walk the talk," Creem said. "These hospitals are a community treasure. It is my job to protect this asset."

Ed Becker, executive director of the USC office of Environmental Health and Safety, called Creem's leadership insights "thought-provoking," and said they held cross-campus value.

"Like Mitch mentioned, so much of what we do is instinctive and reactionary," Becker said. "You have to ask yourself, 'Are you putting together the story? Is there a clear, laid out plan?' You have to make the journey purposeful."

"It's the little things that matter, the connections you make with people."

— Mitch Creem, chief executive officer of USC University Hospital and USC Norris Cancer Hospital

USC oncologist speaks to President's Cancer Panel, TEDMED

The President's Cancer Panel invited David Agus, professor of medicine at the Keck School of Medicine to present his perspective on critical cancer research applications at its Oct. 26 meeting in Philadelphia, PA.

Agus, director of the USC Center for Applied Molecular Medicine and the USC Westside Prostate Cancer Center, was chosen to speak to the panel about innovative approaches to cancer research, including his work in the fields of proteomics and genomics. The President's Cancer Panel advises the President of the United States in the development and execution of the National Cancer Program (NCP). The October panel was titled "The Future of Cancer Research: Accelerating Scientific Innovation."

"I believe we have to go from the 'understanding mode' to the 'control mode' in cancer research," said Agus. "We don't have to understand complex emergent systems to control them. We need to push innovation, and this panel is a mechanism to do that. I'm honored that I have been asked to participate."

Agus followed his appearance before the President's Cancer Panel by participating in three separate sessions

at the TEDMED conference near San Diego, Calif. TEDMED is a medical technology and health care conference bringing together physicians, researchers, entertainers and thought leaders to discuss personal and public health.

Agus was one of 12 experts in private and public medicine and research asked to make presentations to the President's Cancer Panel. These experts in biomedicine and technology shared with the panel the breakthroughs they have made or see on the horizon, as well as new possibilities for collaboration, funding and discovery.

"Proteomics and genomics have the potential to be significant game-changers in the field of cancer research," said Keck School Dean Carmen A. Puliafito. "The fact that Dr. Agus was asked, in essence, to help advise the President in these areas speaks volumes about the value of his expertise."

The panel meets four times every year and submits an annual report to the President with recommendations for improvements. Established by the National Cancer Act of 1971, the panel has recently discussed

themes including the effect of projected shifts in population demographics on the cancer enterprise, the effect of the environment on cancer risk, promotion of healthy lifestyles to reduce cancer risk, and translating research into effective cancer care.

For the second consecutive year, Agus participated in the annual TEDMED conference, which took place from Oct. 26-29 at the Hotel Del Coronado in Coronado, Calif. Agus joined an eclectic group of nearly 60 panelists including Danny Hillis, who has joint appointments as a research professor with Keck and the USC Viterbi School of Engineering. Hillis, chairman and co-founder of Applied Minds Inc. is working together with Agus in the USC-based Physical Science-Oncology Center, established in 2009 by a \$16 million, five-year award from the National Cancer Institute.

Other TEDMED panelists included entertainers Ozzy and Sharon Osbourne, architect Frank Gehry, magician David Blaine and Sanjay Gupta, chief medical correspondent for CNN.

For information on TEDMED, go to <http://www.tedmed.com/what>.

The Weekly NEWSMAKERS

On Oct. 29, CBS News covered the grand opening of the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC. KABC-TV, KNBC-TV, KPCC-FM, *La Opinion*, *China Press* and *Rafu Shimpo* (Japanese News) also covered the event.

An Oct. 29 *Science* article featured director of the USC Norris Comprehensive Cancer Center **Peter Jones** and his research in the field of cancer epigenetics.

An Oct. 26 *Los Angeles Times* article featured a study led by professor of preventive medicine and director of the USC Childhood Obesity Research Center **Michael Goran** and colleagues, which found that high-fructose corn syrup in soda has much more fructose than advertised. NPR, *Time*, *The Atlantic*, AOL News and the *Des Moines Register* also covered the study.

On Oct. 25, KNBC-TV interviewed professor of clinical surgery and chief of the division of surgical

oncology at USC Norris **Stephen Sener** about complications that can arise after breast cancer surgery. KNX Newsradio also interviewed Sener about the topic.

An Oct. 23 *Los Angeles Times* article noted that professor of orthopaedic surgery **Thomas Vangsness** volunteers as the team doctor for Garfield High School and quoted him about a lack of full-time athletic trainers at L.A. high schools. A second L.A. Times story on the topic also quoted Vangsness.

Health care reform offers new opportunities, challenges in Los Angeles

Provisions of the federal health care reform law passed earlier this year will have a profound impact on Los Angeles and surrounding communities. While more than 1.9 million residents will become eligible for new health insurance options, public hospitals and community health centers will face challenges in caring for those who remain uninsured, according to a report by Michael Cousineau, associate professor of research and director of the Center for Community Health Studies at the Keck School of Medicine.

“The good news is that the Patient Protection and Affordable Care Act passed in March provides an important framework for Los Angeles and other cities to turn the corner and solve some of these problems,” Cousineau said. “The law presents a remarkable opportunity to improve health and reduce health care disparities in Los Angeles.”

Cousineau discussed his findings Oct. 5 at the 2010 “Los Angeles: State of the City Report” press conference at California State University, Los Angeles. The report, published by the Pat Brown Institute of Public Affairs, features articles from eight regional experts on critical

issues impacting the quality of life in Los Angeles—including the economy, immigration, housing, transportation, sustainable development and health care reform.

There are currently around 2.7 million uninsured residents in Los Angeles County, Cousineau said. Many will benefit from new state-run insurance exchanges, signed into law earlier this month by Governor Arnold Schwarzenegger, that provide coverage options for individuals and small businesses. The law also enables uninsured people to obtain coverage through Medicaid if they have family incomes less than 133 percent of the federal poverty level.

However, undocumented immigrants are ineligible for most provisions of the new law, and will continue to rely on public hospitals and clinics for health care, he said. Safety net hospitals, including Los Angeles County+USC Medical Center, facing reductions in public funding will have to reorganize to keep newly insured patients in their system of care, while retaining the capacity to serve those who

remain uninsured. Some components of the Patient Protection and Affordable Care Act will take effect in 2010, while others will be phased in over the next four years.

“Additional work needs to be done to improve provider participation in Medi-Cal, increase the number of clinicians practicing in Los Angeles’ underserved communities and stabilize our system of hospitals and health centers,” the report concludes.

For more information visit <http://www.patbrowninstitute.org>.

NIH keeps the peer pressure on—by design and tradition

By Ryan Ball

The method of deciding which scientific projects get funded by the National Institutes of Health (NIH) was recently put under a microscope at the Keck School of Medicine.

Antonio Scarpa, director of the Center for Scientific Review at NIH, offered insight into the process and steps being taken to ensure its future. His Oct. 19 presentation, “Challenges and Opportunities of NIH Peer-Review: A Vision for Ensuring Its Strategic National Value,” was part of the Dean’s Translational Medicine Seminar Series.

“Peer review is an American discovery, and we should be proud of that,” Scarpa said. He noted that the United States is the only country that uses the process, which originated in 1878 when the U.S. military wanted to buy the best science to fight the spread of yellow fever. The initiative

led to Walter Reed and his team discovering that mosquitoes were the carriers.

Scarpa argued that the United States has been so successful in biomedical and behavioral research, and has produced so many Nobel Prize winners, because the government pays for science, not scientists or institutions. Researchers are essentially contractors who bid in open competition.

“The only possible source of adequate support of medical research is the taxing power of the federal government,” said Scarpa.

Scarpa added that the institution of peer review is particularly important as the predominant diseases facing Americans shift from infectious to chronic conditions brought on by obesity and other lifestyle factors. He detailed measures being taken to trim peer review costs and keep the process viable, including using Telepresence to conduct virtual study sections.

Calendar of Events

This Calendar of events is also online at www.usc.edu/hscscalendar for the Health Sciences Campus community

Friday, Nov. 5

11 a.m. Hematology Grand Rounds. “NFkB Signaling in KSHV-Associated Malignancies,” Preet Chaudhary, USC. IPT C2J103. Info: (323) 865-3950

Tuesday, Nov. 9

11:30 a.m. USC Norris Comprehensive Cancer Center Patient Education Program. “Improving Treatments for Blood Cancers—What You Need to Know to Make Informed Decisions,” Ann Mohrbacher, USC. NOR Aresty Aud. Info: (310) 846-4704

Noon. Psychiatry Grand Rounds. “Treatment of Latinos with Schizophrenia,” Alex Kopelowicz, UCLA. ZNI 112. Info: (323) 442-4065

Wednesday, Nov. 10

Noon. ZNI Seminar Series. “Precision and Function of Neuronal Circuits Controlling Motor Behavior,” Silvia Arber, Univ. of Basel. ZNI 112. Info: (323) 442-2144

Friday, Nov. 12

Deadline for Benefits Open Enrollment. For more information, visit http://www.usc.edu/dept/Benefits/print_your_own.html

8:30 a.m. Surgical Grand Rounds. “Genome Censorship: Epigenetic Control in Lung Health and Disease,” Ite A. Laird-Offringa, USC. DOH 100. Info: (323) 442-2506

Tuesday, Nov. 16

Noon. Psychiatry Grand Rounds. “Pharmacotherapy for People with Schizophrenia and Co-occurring Substance Use,” Douglas Noordsy, Dartmouth. ZNI 112. Info: (323) 442-4065

Thursday, Nov. 18

4 p.m. CER Workshop. “Developing NIH Grant Applications,” Steve Moldin, USC. NML East Conference Rm. Info: (213) 740-6709

Friday, Nov. 19

8 a.m. Pathology and Laboratory Medicine Grand Rounds. “Molecular Pathogenesis of B-cell Lymphoma,” Ryan Phan, UCLA. NOR 7409. Info: (323) 442-1180

Notice: Deadline for calendar submission is 4 p.m. Monday to be considered for that week’s issue—although three weeks’ advance notice of events is recommended. Please note that timely submission does not guarantee an item will be printed. Send calendar items to *The Weekly*, KAM 400 or fax to (323) 442-2832, or e-mail to eblaauw@usc.edu. Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location, and a phone number for information.



Photos by Carol Matthieu

DRESSING UP AND GOING OUT—

As part of their annual Halloween parade, children from the USC Childcare Center swarmed USC University Hospital, collecting sweets and smiles before stopping at Pappas Quad to show off their costumes.

Above, Jaimie Davis, assistant professor of research at the Keck School, strolls past the USC Norris Cancer Hospital with sons Parker and Luke Davis.

Right, “Superman” Dylan Conti and “farmer” David Galaviz march into the quad to take a break from fleecing adults of their candy to sample one or two of their treats. Or more.



CENTER: Designed from the ground up with collaboration in mind

Continued from page 1
to give researchers a scientific leg up. That boost comes in the form of workspaces that feature flexibility and facilitate collaboration.

Pera, who joined the Keck School of Medicine in 2006 and brought with him international recognition for his pioneering work in the arena of embryonic stem cell research, said the space was structured with expansion in mind.

“As research groups grow, the layout can accommodate that. There’s also flexibility in bench areas,” he notes. “If we want to convert what are basically desks into lab benches, that can be done fairly easily.”

The \$80 million building—which was funded through a \$30 million gift from the Eli and Edythe Broad Foundation coupled with a \$27 million grant awarded by the California Institute for Regenerative Medicine (CIRM) and other monies donated through private philanthropy—also dedicates interior real estate specifically for stem cell research must-haves, including four core laboratories, as well as rooms set aside for cell culture and microscopy.

While the world of scientific research is frequently fiercely competitive, the recently opened stem cell center was consciously constructed to foster collaboration. And, as Pera points out, collaboration is

CIRM-Funded Institutions		
Institution Name	Funds Committed	Total Awards
Stanford University	\$175,862,473	50
University of California, Los Angeles	\$133,540,219	39
University of California, San Francisco	\$110,532,518	35
University of Southern California	\$86,366,632	26
University of California, San Diego	\$77,177,593	32
To date, USC faculty members working at the two main campuses and Childrens Hospital Los Angeles have secured \$86.3 million in funding, ranking USC fourth among California institutions in California Institute for Regenerative Medicine funding received.		

crucial. “The potential of stem cell research is tremendous, but so are the challenges. We’ve brought together the best scientists, and the more they work together, the more everyone will benefit.”

With synergistic benefits in mind, the building’s floor plan is open and airy. “There’s a lot of interaction space on every floor, and even out on balconies. The whole second floor is set aside for core labs and collaborative work to support researchers throughout Keck.” He adds, “It’s also available to researchers university-wide who want to learn stem cell technologies.”

Leveraging those technologies are top researchers who currently number 10—a total that won’t stay static. “Over the next couple of years,” said Pera, “we’ll be adding another half-dozen investigators. We’re particularly looking for translational researchers who can work in the areas of clinical

strength here at Keck.” Those strengths—which have earned USC faculty members more than \$86 million in CIRM funding—are many and already have resulted in a wealth of weighty discoveries published in prestigious journals, including *Cancer Research*, *Cell*, *Cell Stem Cell*, *Developmental Cell*, *Nature*, *Nature Biotechnology*, and *Proceedings of the National Academy of Sciences*. Among the array of findings:

- **Gregor B. Adams**, assistant professor of cell and neurobiology, identified a new signaling pathway that helps regulate the movement of blood-forming stem cells—a finding that provides insight regarding how stem cells circulate throughout the body, insight that may result in more efficient bone marrow transplants.
- **Michael Kahn**, Provost’s professor of medicine and pharmacy, isolated the mechanism of action in regulation of

pluripotent stem cells (which can become any kind of tissue in the body) by Wnt proteins. The discovery will lead to improved methods of developing stem cells directly from patients. Also, under the auspices of the USC Center for Molecular Pathways and Drug Discovery, a joint venture with the USC Norris Comprehensive Cancer Center, Kahn and Heinz-Josef Lenz, professor of medicine and preventive medicine, are looking to uncover drugs that act on signaling pathways common to stem cells in cancer. One drug has entered clinical trials.

- **Wange Lu**, assistant professor of biochemistry and molecular biology, identified a novel mechanism in the regulation and differentiation of neural stem cells. These findings could have important implications for regenerative medicine and disease therapies, because neural stem cells potentially can be used for cell-replacement therapy in patients with Alzheimer’s, Parkinson’s, spinal cord injuries and brain cancer.
- **Francesca Mariani**, assistant professor of cell and neurobiology, conducted a study that forms the foundation for future studies focusing on limb regeneration.

- **Martin Pera**, professor and founding director, Eli and Edythe Broad Center for Regenerative Medicine and

Stem Cell Research at USC, as a member of the steering committee that directs a global consortium called the International Stem Cell Initiative, helped establish the standards that define a pluripotent stem cell. Another major work focused on the genetic stability of stem cell lines—a factor that is crucial to their safe use. Also, Pera served as co-investigator on a successful USC CIRM Disease Team application to develop an embryonic-stem-cell-based treatment for macular degeneration.

- **Qi-Long Ying**, assistant professor of cell and neurobiology, was the first person to derive authentic embryonic stem cells from rats. This breakthrough finding will enable scientists to create far more effective animal models for studying a wide range of diagnoses, including cancer, diabetes, hypertension, addiction and autoimmune diseases. This is a major development in stem cell research because—in many aspects of biology—rats are much more closely related to humans than are mice, which until now have been the animal model. Using this technique, Ying additionally was successful in achieving targeted, genetic modifications.

The most recent recruits to Pera’s core group of investigators are Mohamed Pashmforoush, assistant professor of medicine, and Henry M. Sucov, associate professor of biochemistry and molecular biology, cell and neurobiology. Both bring with them heart-development expertise that they will apply to the emerging field of cardiovascular regenerative medicine.

“Going forward, our stem cell research program will focus on areas of clinical research strength at the Keck School, including ophthalmology, gastroenterology, cardiovascular medicine, hematology and oncology,” Pera said.

Commenting on the global state of stem cell research, Pera is unquestionably upbeat. “It’s actually quite amazing when you think about it. It has only been a dozen years since human embryonic stem cells were discovered, and yet we are already moving into clinical trials. That’s a remarkably fast timeframe for what is essentially a brand new technology.”

On a local level, Pera is equally enthusiastic. “I’m excited about how our program has grown and the successes individual investigators are having in their research. I think USC is in a great position to make some leading contributions as we go forward.”

New building incorporates key green technologies

By Meghan Lewit

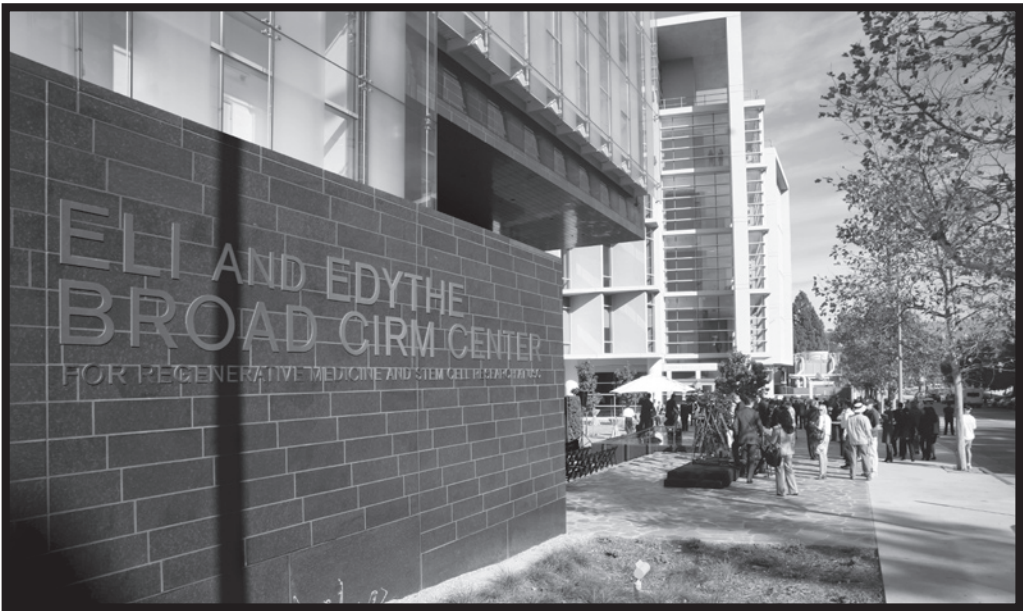
Cutting-edge research needs a home that’s on the cutting-edge of innovation. Standing five-stories high, the sleek black granite and glass Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC combines aesthetics and function in a way that pushes the boundaries of design, as well as science.

A certified “green” building, the 87,500-square-foot center has glass facades running the full length of the building. It is designed to house research teams in flexible, open lab spaces that are bathed in natural light.

The center is the first building on the USC Health Sciences Campus to receive a silver Leadership in Energy and Environmental Design (LEED) designation based on the structure’s unique eco-friendly features. A double-glazed “curtain wall” on the east side of the building allows ventilation in the cavity, reducing heat gain in warmer temperatures and creating an insulating barrier when it is cool. The west-facing wall uses a special low-iron glass and is fitted with translucent glass fins that block sun glare while still maintaining views to an adjacent courtyard.

The glazing system maximizes natural light in both the office and laboratory environments, while controlling glare and heat gain and dramatically reducing electrical demand. The building also utilizes an innovative chilled beam HVAC system, which will use water instead of air to cool the space, reducing energy consumption by more than 30 percent and improving the air quality and occupant comfort within laboratory and office areas.

“The project team consisting of ZGF Architects and Morley Construction was given a challenge to design and build a state-



Guests gather for the grand opening ceremony of the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC, which boasts eco-friendly features such as copious natural lighting and special insulation systems.

of-the-art research facility,” said William Marsh, building project manager for USC Capital Construction Development. “The result is a building that is stunning and incorporates innovative energy-efficient design.”

The building design is also intended to help stimulate synergy between research disciplines and shared work and social spaces, said Ted Hyman, FAIA, partner at Los Angeles-based ZGF Architects LLP. The lab space design includes a flexible modular furniture system and moveable wall partitions. This “neighborhood” lab concept allows easy interaction between labs, while creating more intimate groupings within the open lab plan, Hyman said.

“The scientific community at the stem cell center will be performing highly collaborative research; therefore it is imperative that the design approach maximize both the functional flexibility and the collaborative environment,” he said.



Photos by Jon Nalick

Left, Gov. Arnold Schwarzenegger, USC President C. L. Max Nikias and Eli Broad walk to the stage for the Oct. 29 ribbon-cutting ceremony. Above Rosa Dilani, histology core manager at the Eli and Edythe Broad CIRM Center, describes the lab's function to Broad. Also listening in are U.S. Rep. Lucille Roybal-Allard (in purple) and CIRM Chairman Robert Klein (in gray suit).

STEM CELL: New center positioned as cornerstone of biomedical research at USC

Continued from page 1

Originally conceived in 2005, the project is the product of a public-private partnership between the Keck School, The Eli and Edythe Broad Foundation, and California's voter-created California Institute for Regenerative Medicine (CIRM).

"The definition of 'possible' has changed," said Robert Klein, CIRM chairman, Independent Citizens' Oversight Committee, and author of the California ballot initiative that launched CIRM in 2004. "The stem cell revolution has begun. Let us recognize, celebrate and thank the great scientists and post-docs and grad students who are the real heroes in this fundamental struggle against history's plight of mankind with chronic disease," he said.

An estimated 200 people gathered for the outdoor ceremonies, including several dozen scientists, post-docs and

grad students who will work inside the new facility. The ribbon-cutting was followed by a tour of the building's research labs and a luncheon for invited guests.

Other notables in attendance included: U.S. Congresswoman Lucille Roybal-Allard; California State Sen. Art Torres (ret.); Edward Roski, chair, USC Board of Trustees; and USC Trustees Malcolm Currie, David Lee, Al Mann, Harlyne Norris and Lorna Reed.

The stem cell center is the first building on the USC Health Sciences Campus to receive a silver Leadership in Energy and Environmental Design (LEED) designation based on the structure's unique eco-friendly features. It incorporates an ultra-clear glass and black granite façade.

The building is a cornerstone in the biomedical research corridor on USC's Health Sciences Campus that includes the Zilkha Neuro-



Left, Martin Pera, founding director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC describes the research USC scientists will perform at the center. Right, in an interview with KABC-TV, Gov. Arnold Schwarzenegger hails the center as a crucial step forward for medicine and for California.



genic Institute, the USC Norris Comprehensive Cancer Center and Hospital, and USC University Hospital.

"You will see today that our new building is not only a first-class research facility, but also a stunning architectural statement," said Martin Pera, founding director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC.

"As we work together, Los Angeles can be truly a world-class center for regenerative medicine."

Architects for the project are ZGF Architects. The builder is Morley Construction Company.

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Broads' largesse aims to improve human condition

A child of immigrant parents who instilled him with the values of hard work and education, Eli Broad founded two Fortune 500 companies—KB Home and SunAmerica. Now, he and his wife, Edythe, devote their time, energy and resources to philanthropy.

Together, they established The Broad Foundations to advance entrepreneurship for the public good in education, science and the arts.

In the area of scientific and medical research, the Broads' goal is simple: to improve the human condition. Their investments are focused on human genomics, stem cell research and inflammatory bowel disease.

In an unprecedented partnership with the Massachusetts Institute of Technology, Harvard University and the Whitehead Institute, the Broads created The Eli and Edythe Broad Institute in Cambridge, Mass., which has become the world's leading genomics institute and serves as the model for collaborative

medical research across disciplines.

The Broads' approach to philanthropy extends far beyond simple grant-making. As entrepreneurial visionaries, they seek to create new institutions and encourage innovative solutions to contemporary challenges.

In their adopted hometown of Los Angeles, their philanthropy has catalyzed a biomedical corridor, anchored by the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC. Eli Broad has served on the Keck School of Medicine Board of Overseers since 1999.

The Broads further extended their commitment to accelerating stem cell research through the creation of regenerative medicine and stem cell centers at UCLA and UCSF. The three centers together make California the capital of stem cell research, as the world's leading researchers pursue innovative clinical approaches to diagnose and cure disease and treat disabilities and injuries.

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