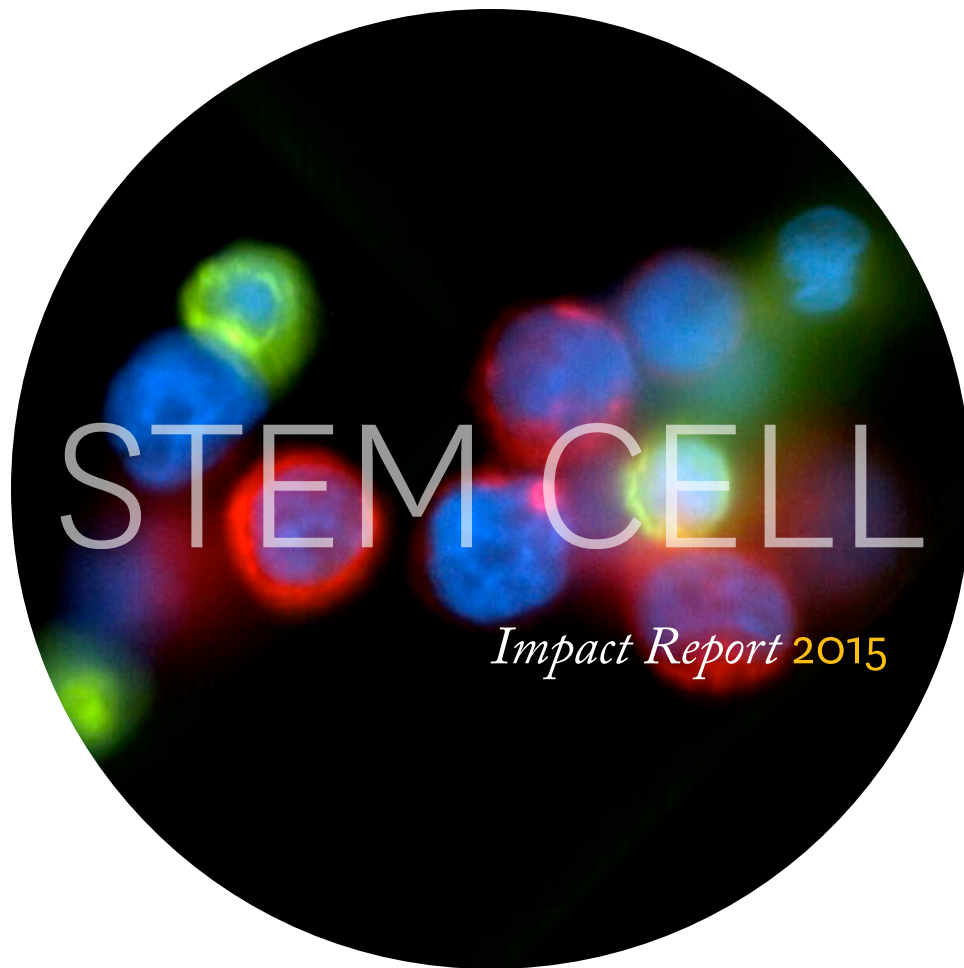



*Eli and Edythe Broad Center
for Regenerative Medicine and Stem Cell Research at USC*



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ELI AND EDYTHE
BROAD CIRM CENTER
FOR REGENERATIVE MEDICINE AND STEM CELL RESEARCH AT USC



“FIVE YEARS AGO, we had great hopes that USC would lead this country in groundbreaking stem cell research. That’s why we invested in a big way. We knew that USC had the ability to draw world-class talent like Andy McMahon and his team. We knew that USC would ensure that state-of-the-art labs would facilitate cutting-edge research. And we knew that the passion of USC’s researchers and scientists would lead to remarkable discoveries and medical advances. We could not be more pleased with the progress that’s been made in the past five years. Our satisfaction is exceeded only by our expectation of what will happen in the next five years.”

- Eli and Edythe Broad

LETTER FROM THE DIRECTOR

In 2012, I answered the call to go west. I left Harvard University and its stem cell programs to become the director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC. I sensed that stem cell research at USC was primed for bold progress. My sense was right. Over the past four years, USC's stem cell research center has flourished.

Here are some highlights:

- making **research breakthroughs on stem cell functions** in many body systems, including mechanisms of cancer spreading stem cells;
- laying the groundwork for **clinical trials exploring stem cell-related treatments** for HIV/AIDS, Alzheimer's disease, the dry form of age-related macular degeneration, knee osteoarthritis and immune damage due to chemotherapy;
- recruiting **nine new faculty members** with primary or secondary appointments from several top-tier universities, including Harvard, Stanford and Johns Hopkins;
- **securing \$14,459,698 in research funding in 2015** through diversified sources, including federal dollars, private foundation support and corporate partnerships;
- enhancing existing capabilities in imaging and cell separation with cutting-edge equipment and establishing **two new core facilities** in stem cell engineering and drug screening;
- launching a **first-of-its-kind stem cell master's program**;
- increasing gifts, grants and pledges from \$570,133 in 2012 to \$8.9 million in 2015, and **establishing the Ambassadors for Stem Cell Research** program;
- securing sponsorship and working with the mayor's office to bring **the International Society for Stem Cell Research (ISSCR)'s 2019 Annual Meeting** to LA;
- sharing our successes through **articles and videos**, and attracting nearly **a quarter of a million annual pageviews** to our newly launched websites;
- co-hosting **outreach events** with the California Institute for Regenerative Medicine (CIRM) to inform the public of our progress;
- strengthening collaborations among **USC, UCLA and UCSF** researchers by hosting the **Tri-institutional Stem Cell Retreat** in Santa Barbara;
- spearheading the **USC Stem Cell initiative** to connect nearly 100 scientists across the university;
- garnering international recognition for excellence in stem cell research with **ISSCR's 2016 McEwen Award for Innovation** to Professor Qi-Long Ying.



Leading USC's stem cell research center during this remarkable journey has been an adventure and a privilege. I'm looking forward to the exciting endeavors ahead.

Sincerely,
Professor Andrew P. McMahon, PhD, FRS

W. M. Keck Provost Professor of Stem Cell Biology and Regenerative Medicine, and Biological Sciences

Director, Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC

Chair, Department of Stem Cell Biology and Regenerative Medicine

Chair of the Executive Committee, USC Stem Cell

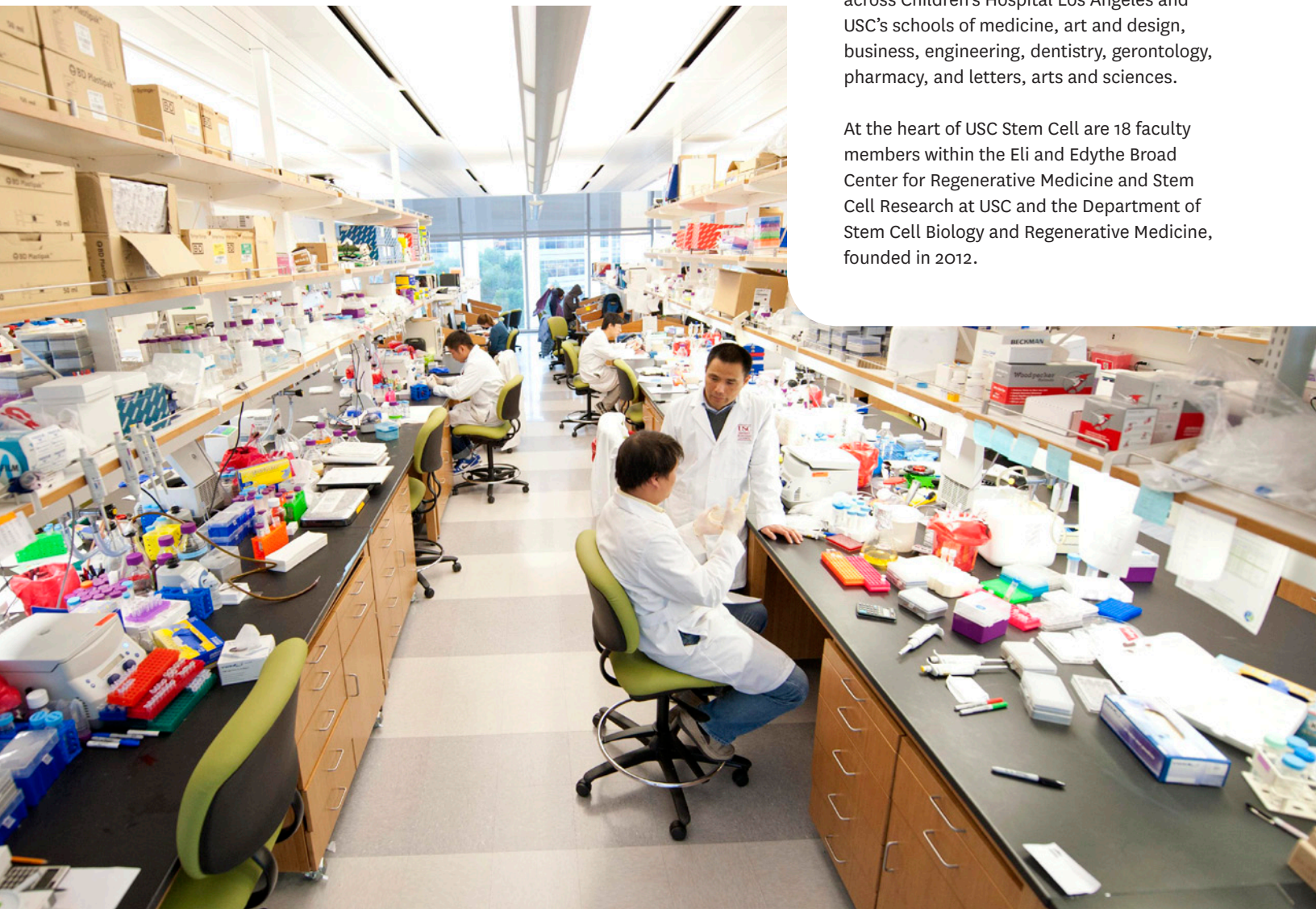
FACULTY

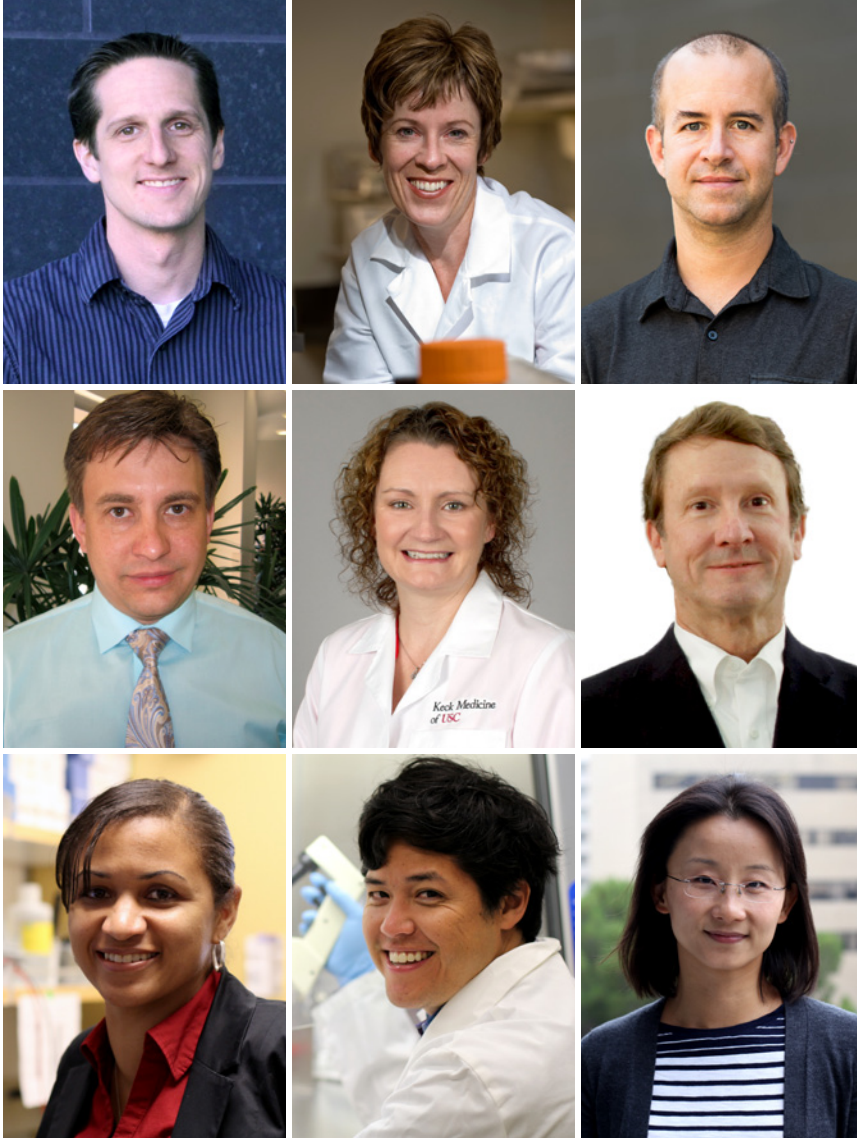
“Regenerative medicine offers the greatest promise to allow us to move beyond the same solutions we have used for years, which are no longer proving effective. Regenerative medicine isn’t new, but USC’s research centers are making strides in tomorrow’s clinical advances and innovative research projects.”

-Richard N. Merkin, Ambassador for Stem Cell Research at USC

USC Stem Cell is a collaborative, multi-disciplinary effort working to translate the potential of stem cell research into the clinical imperative of regenerative medicine. Our initiative brings together nearly 100 research and clinical faculty members from across Children’s Hospital Los Angeles and USC’s schools of medicine, art and design, business, engineering, dentistry, gerontology, pharmacy, and letters, arts and sciences.

At the heart of USC Stem Cell are 18 faculty members within the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC and the Department of Stem Cell Biology and Regenerative Medicine, founded in 2012.





First row, left to right:

Michael Bonaguidi is tapping the therapeutic potential of neural stem cells within the adult brain. (bonaguidilab.usc.edu)

Paula Cannon focuses on genetically modifying stem cells for stem cell-based therapy. (uscmmi.com/paulacannonlab)

Gage Crump studies zebrafish models of bone and joint repair. (crumplab.usc.edu)

Second row, left to right:

Denis Evseenko is developing human pluripotent stem cell methods for joint repair. (evseenkolab.usc.edu)

Amy Firth uses patient-derived pluripotent stem cells to study and model human lung disease. (firthlab.usc.edu)

Scott E. Fraser develops and applies technologies to image and analyze complex developing systems. (fraserlab.usc.edu)

Third row, left to right:

Senta Georgia is repurposing intestinal stem cells as new sources of insulin to treat diabetes. (georgialab.usc.edu)

Justin Ichida is using patient-specific stem cell-directed systems to model ALS and identify new drug candidates. (ichidalab.usc.edu)

Rong Lu is identifying mechanisms of stem cell renewal for blood stem cells. (ronglulab.usc.edu)

FACULTY

First row, left to right:

Wange Lu is studying programs of neural stem cell renewal and differentiation. (wangelulab.usc.edu)

Francesca Mariani focuses on the repair and regeneration of the mammalian skeleton. (marianilab.usc.edu)

Megan McCain is engineering stem cell-derived “organ on a chip” models of human heart disease. (livingsystemsengineering.usc.edu)

Second row, left to right:

Andy McMahon (director and chair) is identifying mechanisms of kidney development and repair to address kidney disease. (mcmahonlab.usc.edu)

Toshio Miki is directing placenta-derived stem cells to functional liver for therapeutic strategies. (keck.usc.edu/broadcenter/faculty/toshio-miki)

Joseph T. Rodgers is uncovering signaling networks that coordinate muscle stem cell responses to injury. (rodgerslab.usc.edu)

Third row, left to right:

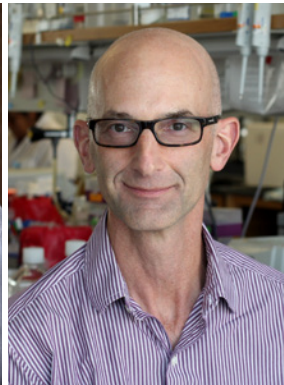
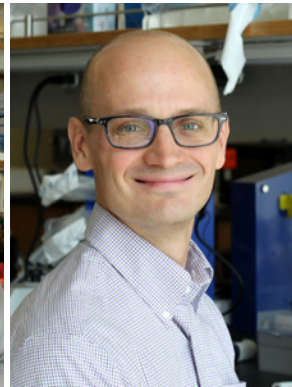
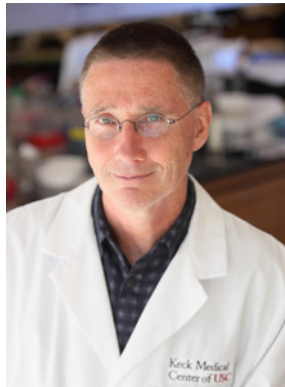
Neil Segil is developing stem cell models of the sensory inner ear to treat deafness. (segillab.usc.edu)

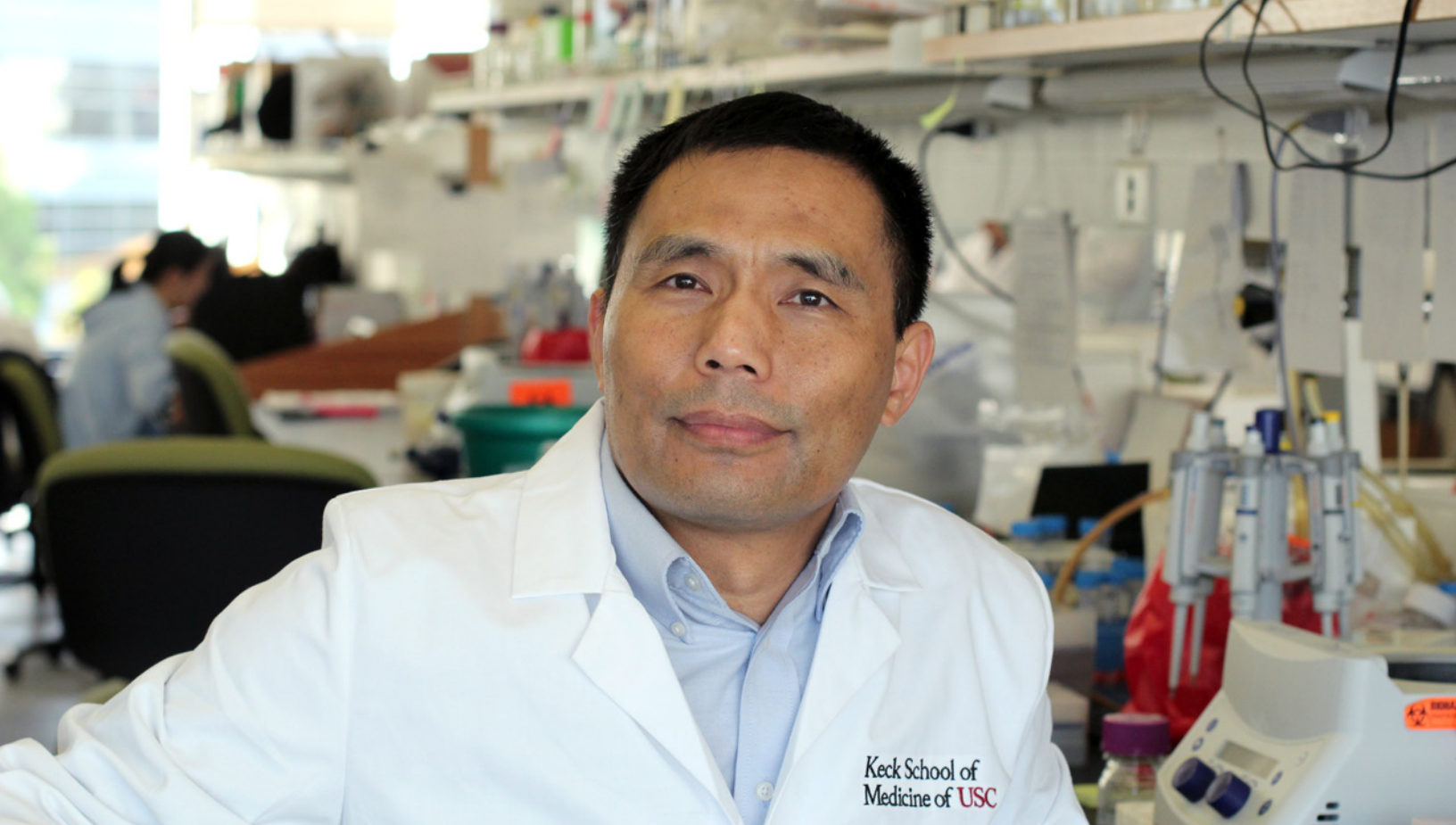
Henry Sucof explores cardiovascular development and congenital cardiovascular defects for cardiac therapeutics. (sucovlab.usc.edu)

Qi-Long Ying focuses on understanding the fundamental mechanisms of pluripotent stem cell systems. (yinglab.usc.edu)

Fourth row:

Min Yu is developing approaches to target circulating breast cancer stem cells to halt the spread of breast cancer. (yulab.usc.edu)





Scientists Qi-Long Ying and Austin Smith win the 2016 McEwen Award for Innovation

Researchers Qi-Long Ying from USC and Austin Smith from the University of Cambridge have won the 2016 McEwen Award for Innovation, the highest honor bestowed by the International Society for Stem Cell Research (ISSCR). Supported by the McEwen Centre for Regenerative Medicine, the award recognizes groundbreaking stem cell discoveries that open new avenues to explore or treat human disease.

The third child of a farmer and a factory worker, Ying grew up in Yongkang, a small city in China's Zhejiang province, during the Cultural Revolution. After the death of Chairman Mao in 1976 and reinstatement of China's merit-based college entrance exam, Ying earned a top score and chose the First Military Medical University. What he didn't fully appreciate at the time was that attending a military medical university carried an obligation of 25 years of army service.

Time on a remote missile base near the North Korean border was followed by admission to Shanghai Medical University, where he pursued his master's and PhD degrees and postdoctoral training. Luckily for stem cell research, a summons back to the army missile troop was countered by an offer for a postdoctoral position in Smith's laboratory, then at the University

of Edinburgh in Scotland. There followed a series of important discoveries on the normal actions of stem cells, in particular neural stem cells, and the breakthrough that eventually earned the McEwen Award: a simplifying approach to maintain embryonic stem (ES) cells using two inhibitory drugs — dubbed 2i — that block stem cell differentiation.

Ying left the Smith Lab to accept a faculty position at the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC, where Ying's team made one of *Science* magazine's "Top 10 Breakthroughs of 2010" using ES cell-based gene targeting to develop the world's first knockout rats, enabling new approaches to disease modeling.

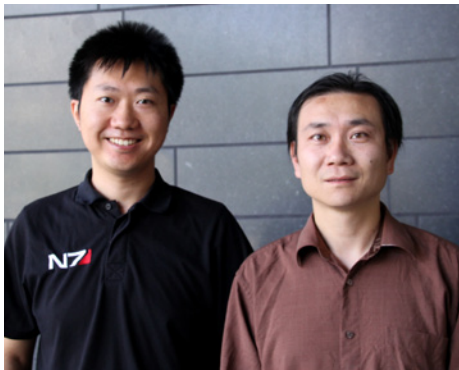
In recognition of their accomplishments, Ying, who serves as the director of the Chang Stem Cell Engineering Facility in USC's stem cell research center, and Smith will accept the McEwen Award and shared \$100,000 prize at ISSCR's 2016 meeting in San Francisco.

"To be successful in this very competitive scientific career," said Ying, "you have to have confidence that you can achieve something."

RESEARCH FUNDING

“I support Andy McMahon and his team at USC’s stem cell research center, because their fundamental research aids in the understanding of some of medicine’s most complicated problems. The work happening today at USC will benefit all of us as well as generations to come.”

- Paul Attyah, USC Stem Cell supporter



Faculty at the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC have received \$14,459,698 in research funding for 2015. Eleven of 19 new awards are from non-NIH and non-CIRM sources, underscoring our success in securing new sources of funding.

Highlights include:

- CIRM Tools and Technologies grants to Qi-Long Ying, Paula Cannon and Toshio Miki;
- Department of Defense grant to Justin Ichida in partnership with Sanofi and DRVision Technologies;
- New York Stem Cell Foundation–Robertson Investigator Award to Justin Ichida;
- NIH Director’s New Innovator Award to Min Yu;
- Pew-Stewart Scholar Award for Cancer Research to Min Yu.



Doerr Stem Cell Challenge Grant recipients: top, Yuwei Li (left) and Ang Li; bottom, Lindsey Barske (left) and Michaela Patterson

Philanthropic Partnerships

To catalyze research innovation, our philanthropic partners support a range of transformational opportunities:

The Eli and Edythe Broad Innovation Awards

provide support for USC-affiliated faculty members pursuing multi-investigator research collaborations related to stem cells. This year’s winners are using “organ-in-a-dish” approaches to study disease.

The Audrey E. Streedain Regenerative Medicine Initiative Awards provide support for USC-affiliated faculty members pursuing multi-investigator research collaborations related to stem cells.

The Doerr Stem Cell Challenge Grants provide support for graduate students or postdoctoral scholars from different USC labs to design and pursue interdisciplinary, stem-cell related research.

- 2015–2016: Ang Li (Chuong Lab) and Yuwei Li (Fraser Lab); *Novel imaging studies of bioelectric cues regulating collective behavior of skin progenitor cells*
- 2015–2016: Lindsey Barske (Crump Lab) and Michaela Patterson (Sucov Lab); *Utilizing the zebrafish to test the function of a novel GWAS-identified candidate gene in heart regeneration*

The Richard N. Merkin Assistant Professorships in Regenerative Medicine will provide four outstanding young faculty members with career-shaping resources.



USC Stem Cell's Justin Ichida, Sanofi and DRVision Technologies team up to fight ALS

USC Stem Cell researcher Justin Ichida has marshaled the expertise of pharmaceutical company Sanofi and startup DRVision Technologies along with \$1.5 million in federal funding to find new drugs to fight amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease.

This three-year grant comes not from the typical sources at the National Institutes of Health (NIH), but from the Department of Defense (DoD). Each year, the DoD funds two ALS Therapeutic Development Awards, because military veterans are more likely than civilians to suffer from this fatal neurodegenerative disease for unknown reasons.

Ichida has pioneered a way to pre-screen drug-like compounds in the laboratory on cells from patients with the most common form of ALS. Ichida directly reprograms patients' skin cells into motor neurons, which exhibit the disease's signature degeneration. He then puts these reprogrammed motor neurons into a robotic screening machine, which exposes them to drug-like compounds and captures microscopic movies of the results. In his pilot screening of 800 compounds, he found four that kept these motor neurons alive in the Petri dishes — and could eventually do the same in patients.

With his new grant and industry partners, Ichida is able to scale up his efforts and screen 43,000 FDA-approved drugs.

"The importance," said Ichida, "is that it's going to be one of the first examples of taking a patient-specific disease model from stem cells and using it to discover drugs at a pharmaceutical scale."

Corporate Partnerships

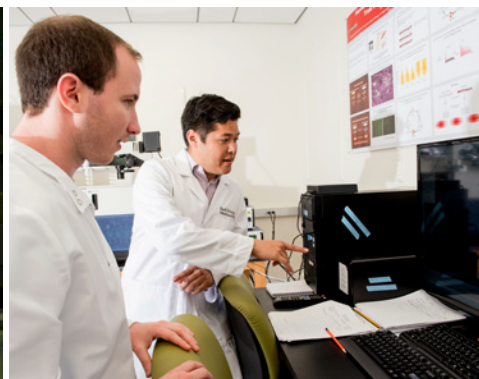
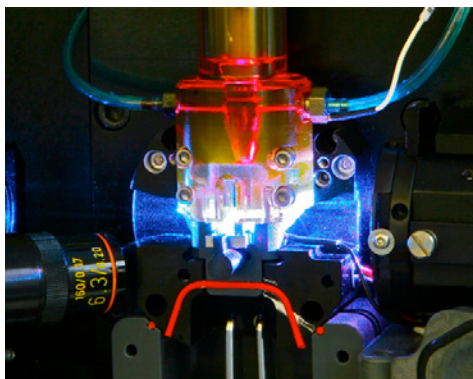
To move our research results into clinical settings, our faculty members are actively engaging industry partners:

- Andy McMahon's lab and Biogen Idec as part of a multi-institutional consortium, bringing in close to \$1 million in research funding over three years;
- USC faculty member Megan McCain and Thermo Fisher Scientific;
- USC faculty member Tom Vangsness and Cellular BioMedical Group to set up osteoarthritis clinical trials;
- USC faculty member Justin Ichida, Sanofi and DRVision Technologies to tackle ALS, funded by a \$1.5 million U.S. Department of Defense grant;
- USC and Amgen through a master agreement.

CORE FACILITIES

“My hope is for this facility is to change people’s lives and make people live longer and better. USC is our first stop in searching for the American dream. The most crucial thing in coming to USC is to learn the Trojan spirit. Fight On!”

-Daniel Chang, Ambassador for Stem Cell Research at USC

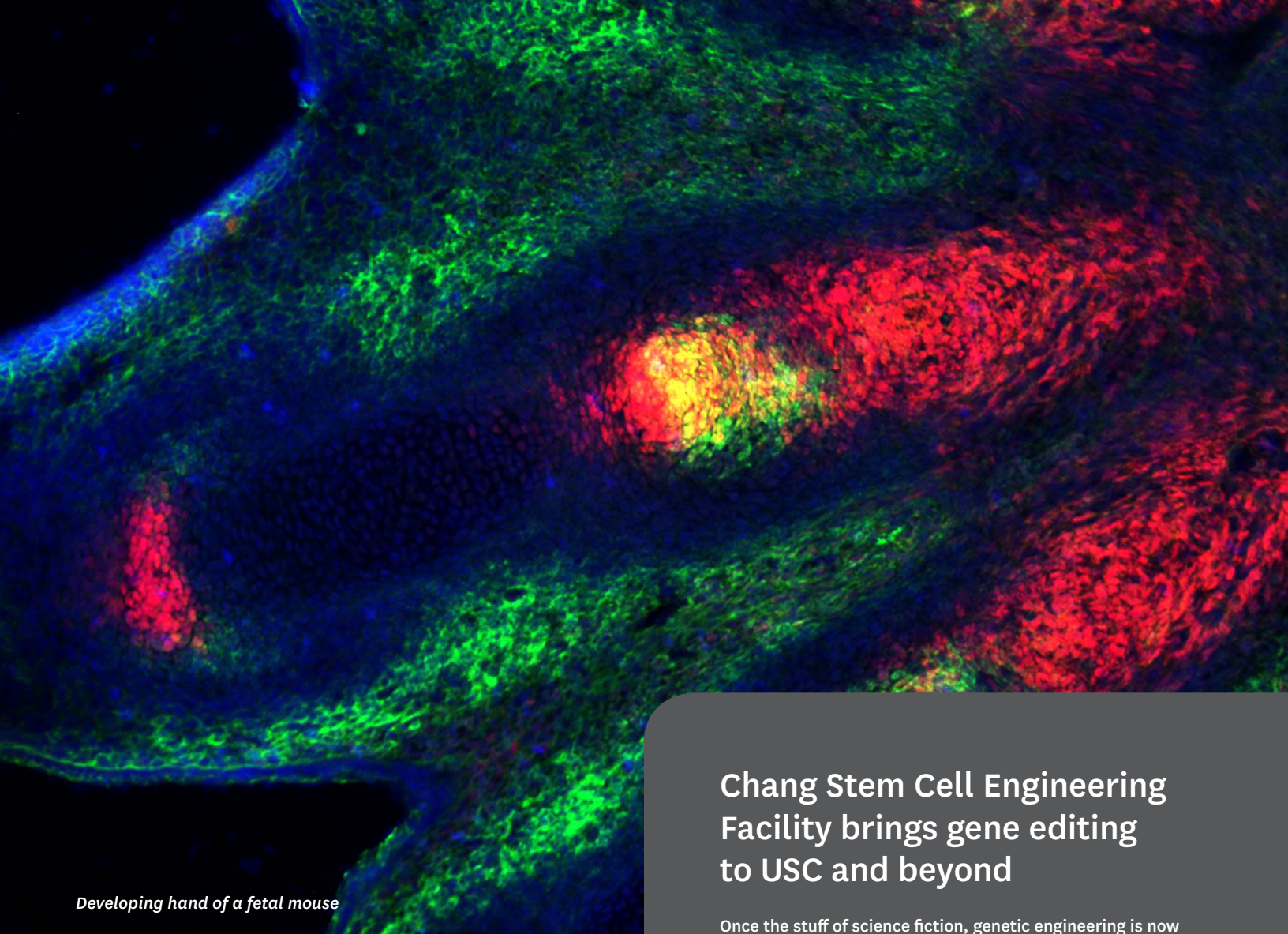


From left: Chang Stem Cell Engineering Facility; Flow Cytometry Core Facility; Choi Family Therapeutic Screening Facility

Thanks to our research facilities, the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC is a one-stop-shop where scientists can have patient-specific stem cells generated and genetically modified to make tools for studying diseases, and stem cells models screened for therapeutic drugs. We also offer state-art-of-the-art microscopy and flow cytometry. All facilities are available broadly to the USC research community to encourage new stem cell researchers.

With a generous gift from the Chang Family, **the Chang Stem Cell Engineering Facility** opened in June 2015 to provide stem cell genome editing to investigators at USC and beyond. (stemengineering.usc.edu)

The Choi Family Therapeutic Screening Facility enables investigators from USC and beyond to improve their understanding of diseases and accelerate the discovery of potential therapeutic drugs. (choiscreening.usc.edu)



Developing hand of a fetal mouse

The Flow Cytometry Core Facility provides the research community with state-of-the-art technology to selectively phenotype and isolate specific populations of cells. (flow.usc.edu)

With initial funding from the Hearst Foundations, **the Microscopy Core Facility** is equipped with a wide range of cutting-edge microscopes, which image cellular dynamics in systems such as mouse embryos, living zebrafish and human stem cell cultures. (microscopy.usc.edu)

The Stem Cell Core Facility provides courses, resources and state-of-the-art technology for everyone from local high school students to principal investigators. The facility also provides researchers with the ability to generate patient-specific induced pluripotent stem cells (iPSCs). (stemcellcore.usc.edu)

Chang Stem Cell Engineering Facility brings gene editing to USC and beyond

Once the stuff of science fiction, genetic engineering is now offered on a fee-for-service basis at USC. In September 2015, USC Stem Cell welcomed supporters and friends to celebrate the grand opening of the Chang Stem Cell Engineering Facility, located in the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC. Established with a gift from the Chang family, the facility serves researchers at USC as well as at other institutions.

The facility genetically modifies embryonic stem cells (ESCs) and induced pluripotent stem cells (iPSCs). Genetically modified ESCs and iPSCs, derived from human patients or animals, provide an opportunity to investigate the mechanisms of disease and develop new treatments. With these genetic modifications, investigators can expose some of the cells to thousands of potential drugs at the existing Choi Family Therapeutic Screening Facility, also located in USC's stem cell research center.

According to Qi-Long Ying, director of the Chang Stem Cell Engineering Facility, "By combining the power of genome editing and stem cell technology, this new facility provides a versatile and efficient stem cell engineering platform to help investigators from USC and beyond create disease models in a dish and develop new treatments."

EDUCATION

The Department of Stem Cell Biology and Regenerative Medicine is spearheading multidisciplinary educational initiatives and opportunities across the university.



Development, Stem Cells and Regenerative Medicine Doctoral Program

(pibbs.usc.edu)

More than 40 students from the Keck School of Medicine of USC participate in our doctoral program. A new degree track has been added in development, stem cells and regenerative medicine, reflecting the strength of this research area and student interest.

MD Program

(www.keck.usc.edu/education/md-program)

Our faculty lead a semester-long course in micro-anatomy to empower first-year medical students with knowledge in cellular biology. In addition, several of our laboratories host medical students and fellows for hands-on stem cell research.

Master of Science

(scrm.usc.edu)

Spring and Winter 2015 marked the graduation of our inaugural class of 28 students, who have already achieved considerable success, gaining admission into competitive PhD and MD programs and landing jobs in the biotech industry, legal profession, and hospital and university research settings. In Fall 2015, the program welcomed its second class of 31 students, selected from approximately 132 applications, with a mean GPA of 3.4.

Undergraduate Courses

USC Dornsife College of Letters, Arts and Sciences
From Development to Regenerative Medicine
(Andy McMahon)

Keck School of Medicine of USC
Human Development: From Stem to Sternum
(Neil Segil and Senta Georgia)

Stem Cells: Fact and Fiction (Gage Crump)

USC Viterbi School of Engineering
Microscope Design and Construction (Seth Ruffins)

USC Roski School of Art and Design
Art students have produced a series of sculptures, paintings, animation and design installations inspired by USC's stem cell research center.

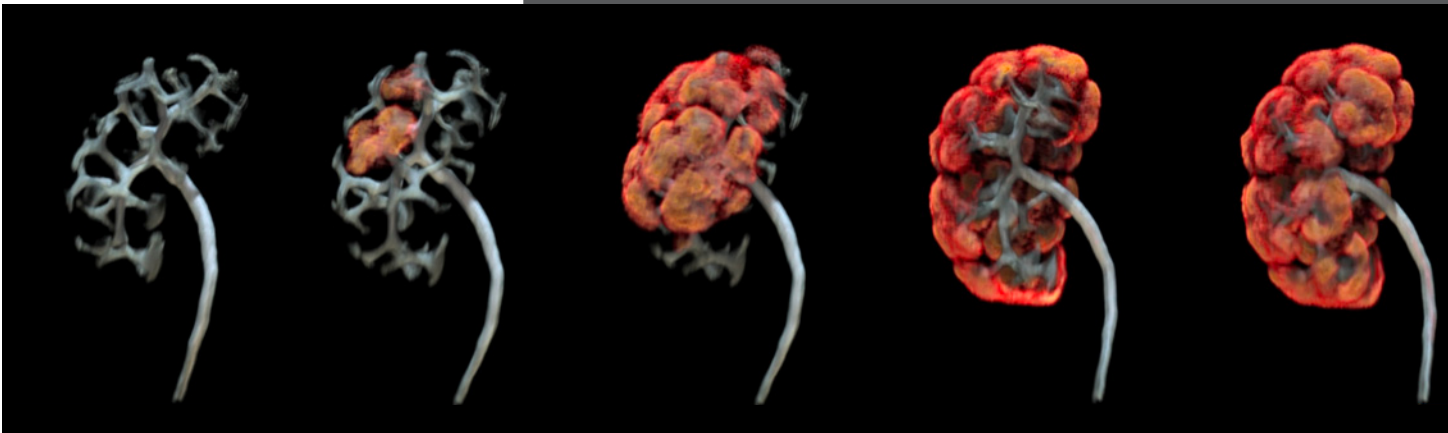
Engineering undergraduates focus on building a microscope for USC's stem cell research center

Previously, when members of the McMahon Lab wanted a three-dimensional image of a kidney, they would ship the organ to Australia. Now, they can send the organ down the hall to the university's new specialized microscope — built by a team of five undergraduates from the USC Viterbi School of Engineering as part of the course Microscope Design and Construction.

Called an optical projection tomography (OPT) microscope, the instrument produces three-dimensional images of pea-sized biological samples, such as organs and embryos. This provides a valuable tool that enables biologists to study how organs develop, maintain and repair themselves.

In the course funded by Andy McMahon, overseen by USC Viterbi professors Scott E. Fraser and Andrea Armani, and taught by Microscopy Core Facility Director Seth Ruffins, the undergraduates built and assembled the microscope hardware during Fall 2014, and continued to troubleshoot the software as volunteers during Spring 2015.

"I look forward to continuing to work with students and colleagues at USC Viterbi and across the university," said McMahon. "The fact that this undergraduate course has produced a working OPT microscope, which will be tremendously useful to stem cell researchers including myself, underscores the synergy that results when we reach across disciplines."



Optical projection tomography (OPT) imaging of an embryonic day 13.5 mouse kidney

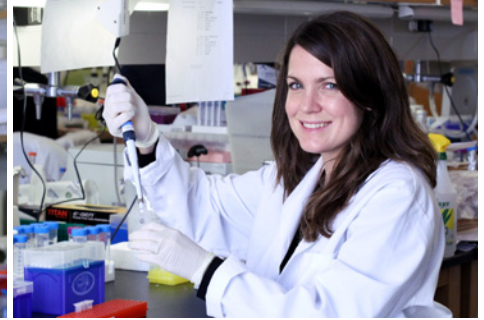
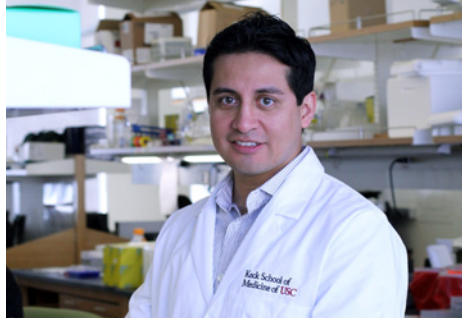
EDUCATION

Postdoctoral and Clinical Fellowships

First row, left to right:

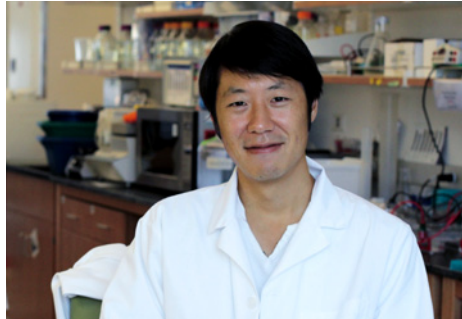
Broad Fellow 2015–2016:

Gabriel R. Linares is exposing motor neurons derived from patients with ALS to thousands of drugs with potential to treat the disease.



Broad Fellow 2014–2015:

Lori O'Brien explored kidney stem cells in the context of normal development and cancer.



Second row, left to right:

Hearst Fellow 2015–2016:

Albert D. Kim aims to isolate and generate a large number of kidney progenitor cells with the goal of repairing damaged adult kidneys.



Broad Clinical Research Fellow 2015–2016:

Andre Luis de Castro Abreu, a clinician who received his urology training in Brazil with an additional clinical fellowship in robotic urologic surgery at USC, is examining a newly discovered mechanism of kidney repair.

Third row, left to right:

Broad Clinical Research Fellow 2015–2016:

Victoria Forte, a third year medical oncology fellow, is determining if cancer stem cells can be targeted and eradicated post-treatment for newly diagnosed breast cancer.



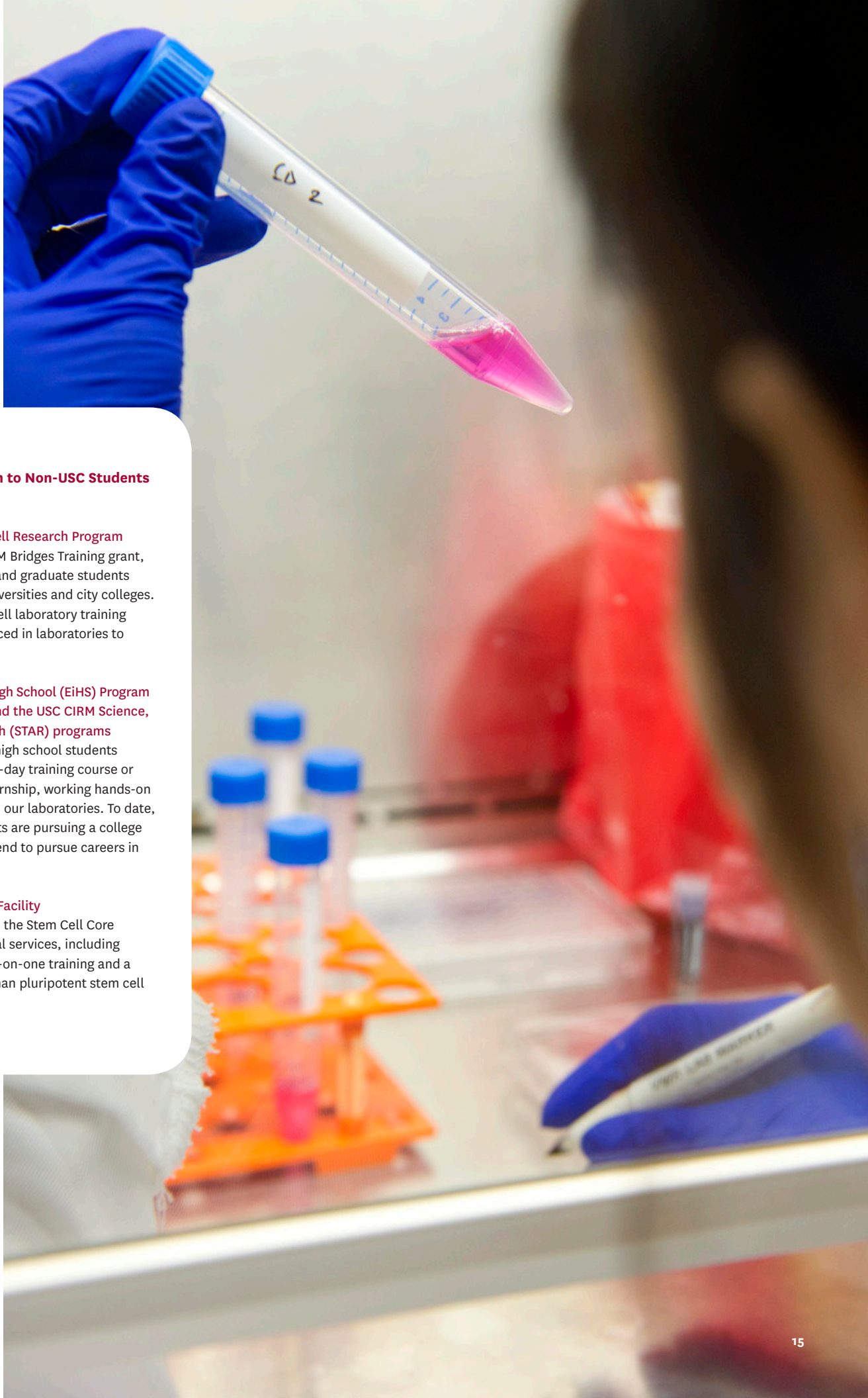
Broad Clinical Research Fellow 2015–2016:

Rodrigo Martínez Monedero, a practicing neuro-otologist who received his medical training in Spain, is working to understand deafness and find new treatments.

Fourth row:

Broad Clinical Research Fellow 2015–2016:

Kathy Schall, a surgeon in training, is working to help patients with short bowel syndrome (SBS) avoid surgery by encouraging the regeneration of their intestines.



Training Courses Open to Non-USC Students and Researchers

CIRM Bridges to Stem Cell Research Program

With support from a CIRM Bridges Training grant, we host undergraduate and graduate students from California State Universities and city colleges. After a one-week stem cell laboratory training course, students are placed in laboratories to conduct research.

USC Early Investigator High School (EiHS) Program in Stem Cell Research and the USC CIRM Science, Technology and Research (STAR) programs

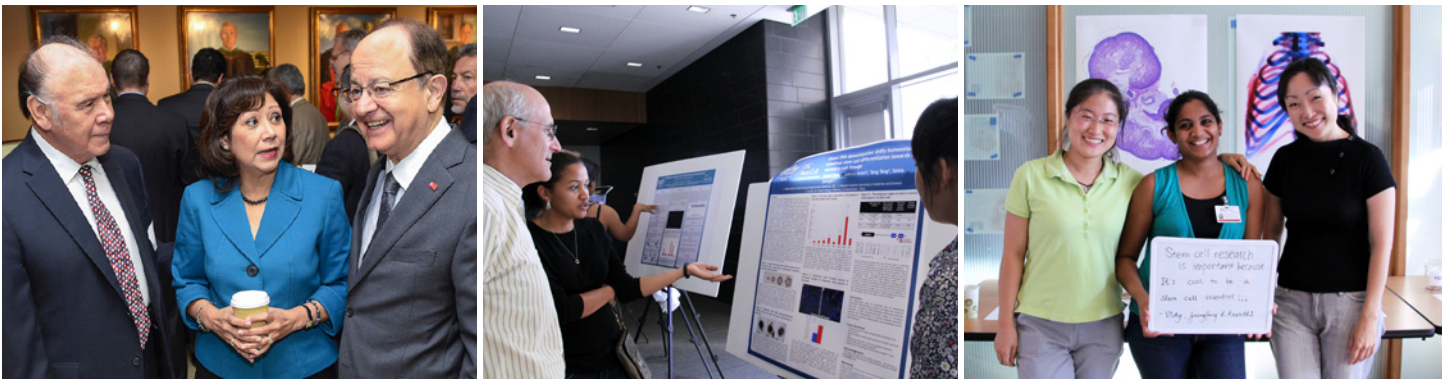
Over the summer, local high school students participate in either a 10-day training course or eight-week research internship, working hands-on with human stem cells in our laboratories. To date, 100% of past participants are pursuing a college education, and most intend to pursue careers in medicine or research.

Stem Cell Core Training Facility

With support from CIRM, the Stem Cell Core Facility offers educational services, including technical protocols, one-on-one training and a week-long course in human pluripotent stem cell culture techniques.

COMMUNICATION AND OUTREACH

Educating the public on advances in stem cell research is central to our mission and vital for our continued progress. To this end, the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC hosts events, provides lectures at academic institutions, and mobilizes print, web and social media to engage and galvanize our growing community of supporters and collaborators.



From left: USC Trustee Frank Cruz (left), Los Angeles County Supervisor Hilda Solis and USC President C. L. Max Nikias at the Los Angeles Biotech Summit; USC Stem Cell faculty members Neil Segil (left) and Senta Georgia (center) with master's student Susan Chong at Stem Cell Awareness Day; USC visiting scholar Guangfang Wang (left), PhD candidate Keerthi Boddupally (center) and research associate Vicky Yamamoto at Stem Cell Awareness Day

In 2015, we produced 71 articles and six videos (stemcell.usc.edu/news-archive). In addition to appearing in USC publications and websites, our news was highlighted by external media outlets, including *the Los Angeles Times*, *the Washington Post*, *Discovery*, *Scientific American*, *Smithsonian*, *the Guardian*, BBC News, ABC and more.

According to the 2015 Google Analytics report, we nearly doubled total web traffic across all websites, including our main website (stemcell.usc.edu), 17 lab websites, five core facilities websites and master's program website (scrm.usc.edu). In addition, USC Stem Cell Facebook nearly doubled its likes from 525 to 1,007.

Retreats, symposia and public lectures included:

- Los Angeles Biotech Summit;
- Tri-institutional Stem Cell Retreat with USC, UCLA and UCSF;
- USC Stem Cell Symposium;
- Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC Retreat;
- Stem Cell Awareness Day;
- CIRM Patient Advocate Meeting;
- CIRM Tools and Technologies seminar;
- Junior Faculty Mini-symposium.

Tri-institutional Stem Cell Retreat brings together Broad centers from USC, UCLA and UCSF

Working alone, a scientist or university can only make so much progress in finding answers to basic questions or new treatments for diseases ranging from HIV to cancer to diabetes. That’s why nearly 300 scientists from USC, UCLA and UCSF gathered in Santa Barbara for a Tri-institutional Stem Cell Retreat.

Hosted by USC at the Fess Parker: A Doubletree Hilton Resort in May 2015, the retreat showcased some of the most innovative projects from the three universities’ stem cell research centers — which were all established with support from Eli and Edythe Broad and the California Institute for Regenerative Medicine (CIRM).

“If we want a true measure of success for the meeting, it won’t simply be that we’ve had a good time, but that the scientific interchange between us provides new insights and collaborative opportunities,” said Andy McMahon.

Keynote speaker Amy Wagers from the Harvard Stem Cell Institute described an experiment in which she connected the circulatory systems of an old mouse and a young one. The old



mouse experienced youthful benefits, and the young mouse suffered ailments of age. Her goal is to find ways to use some of these youthful blood-borne factors to treat age-related dysfunction.

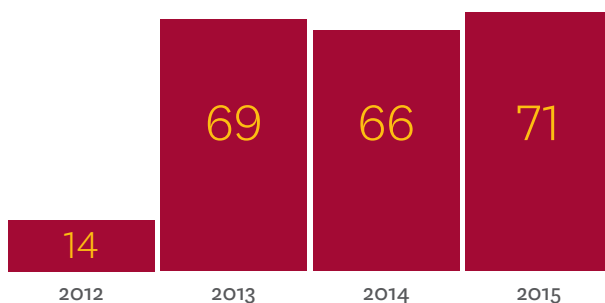
In all, about 30 principal investigators, postdoctoral scholars and PhD students discussed advances relevant to a wide variety of diseases. An additional 100 scientists presented their research on posters, and 10 of these gave brief “poster highlight” talks.

The retreat received generous support from Eli and Edythe Broad as well as sponsors Amgen, Gibco by Thermo Fisher Scientific, CIRM, Cellular Dynamics International, Affymetrix, Fluidigm, Genea Biocells, Genentech, Leica Beckman Coulter, Sanofi, Biotechne, Eppendorf and NuGEN.

“I’ve learned so much from this meeting,” said McMahon. “It’s a rapidly moving field, so I think we need a retreat next year as well.”

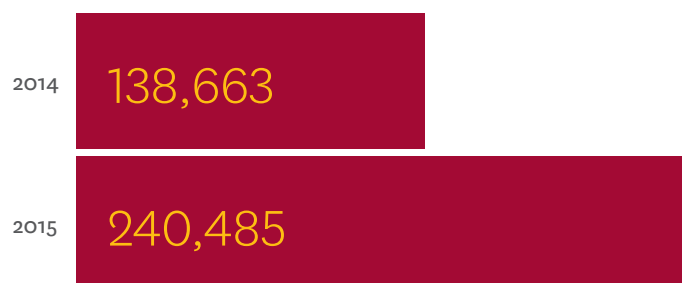
Articles

**Dedicated writer hired in 2013*



Web Traffic (pageviews)

**2013 and 2012 are pre-launch for all websites except for stemcell.usc.edu.*



PHILANTHROPY

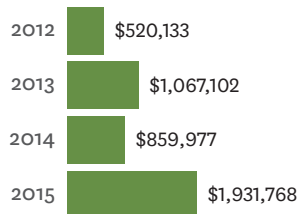
“Stem cell research is such an exciting field for scientists now. Our family is honored to have the opportunity to learn alongside USC’s scientists and help them reach their potential in turning discoveries into cures.”

- Kin-Chung Choi, Ambassador for Stem Cell Research at USC



The grand opening of the Chang Stem Cell Engineering Facility

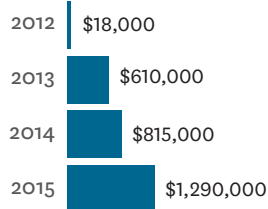
Gifts and Grants



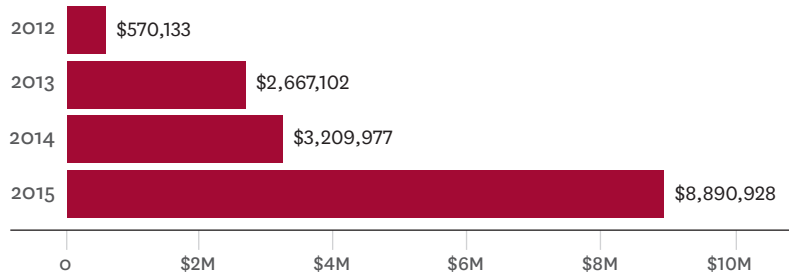
Pledges

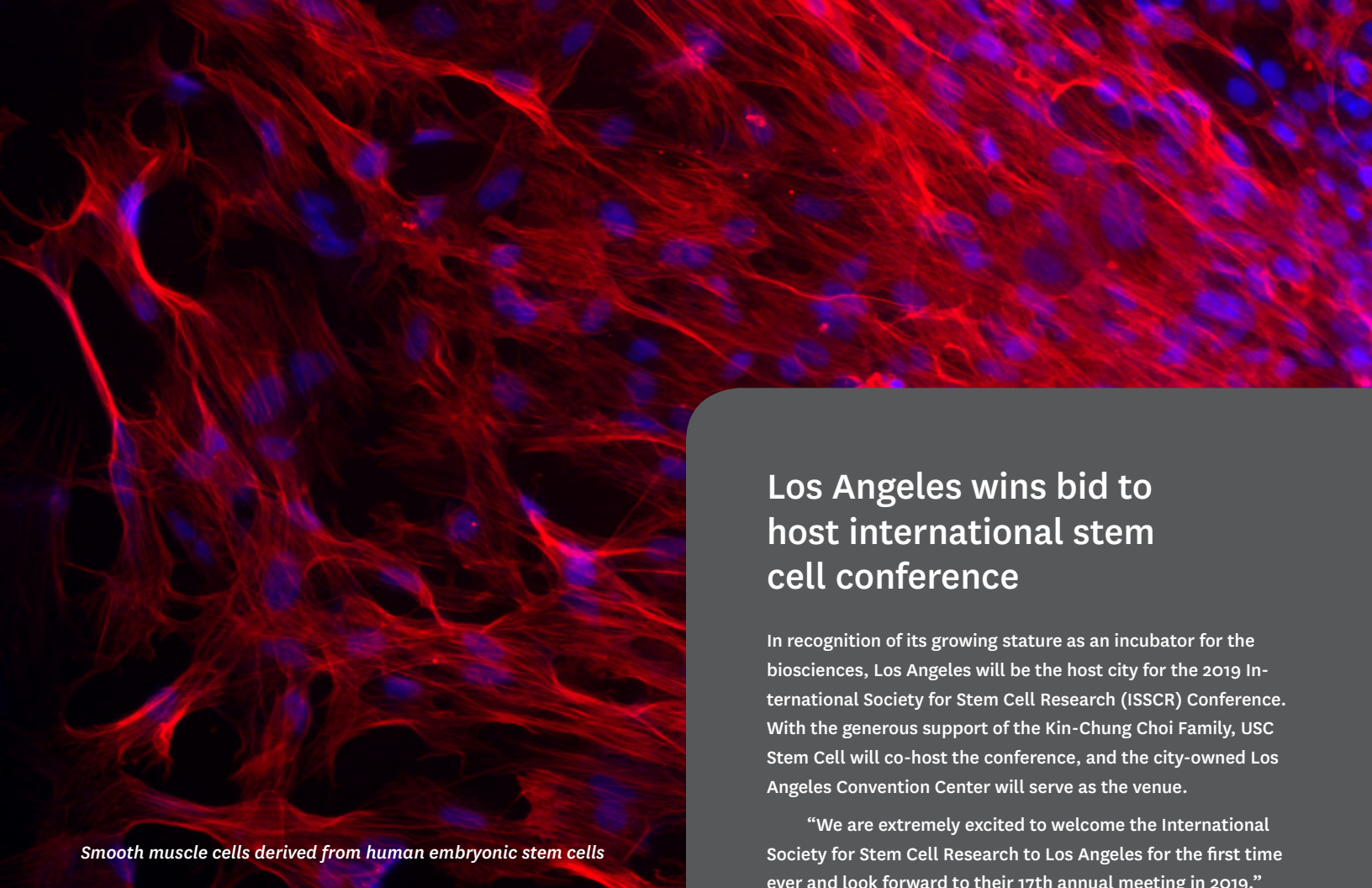


Pledge Payments



TOTAL (Gifts, Grants, and Pledges)





Smooth muscle cells derived from human embryonic stem cells

We are grateful for our philanthropic supporters, who gave \$8.9 million in gifts, grants and pledges in 2015. Leading this effort are the founding supporters and ambassadors for Stem Cell Research at USC, visionaries who play a pivotal role in revolutionizing regenerative medicine. Over the past two years, we recruited nearly 25 new Ambassadors. Through their support, we have invested in new interdisciplinary, disease-focused research initiatives, promoted the careers of promising junior faculty and postdoctoral fellows, and established a new genome editing facility.

Los Angeles wins bid to host international stem cell conference

In recognition of its growing stature as an incubator for the biosciences, Los Angeles will be the host city for the 2019 International Society for Stem Cell Research (ISSCR) Conference. With the generous support of the Kin-Chung Choi Family, USC Stem Cell will co-host the conference, and the city-owned Los Angeles Convention Center will serve as the venue.

“We are extremely excited to welcome the International Society for Stem Cell Research to Los Angeles for the first time ever and look forward to their 17th annual meeting in 2019,” said Mayor Eric Garcetti. “L.A. is the latest and most innovative bioscience hotspot in the state, and ISSCR’s choice is a reflection of the scientific advances occurring in our city today.”

Hong Kong-based businessman and philanthropist Kin-Chung Choi has been a strong supporter of USC Stem Cell, and he extended his “thanks to USC for giving me this rare opportunity to support stem cell researchers from all over the world.”

As chair of the executive committee of USC Stem Cell, Andy McMahon expressed his own thanks to those who helped bring the conference to Los Angeles and extended his “warmest welcome to the wide range of visionaries and leaders who will be attending this event, which will be a great opportunity to highlight research at USC and our sister institutions across the region.”

(stemcell.usc.edu/support)



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Produced by the Eli and Edythe Broad Center
for Regenerative Medicine and Stem Cell Research
at USC, 2016

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