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CIRM awards USC, CHLA \$1.5 million for stem cell lines

By Meghan Lewit

Keck School of Medicine researchers and physicians working at the Health Sciences Campus and at Childrens Hospital Los Angeles have been awarded \$1.5 million under two separate grant programs from the California Institute for Regenerative Medicine (CIRM) that will help create new cell lines and drive research on specific diseases.

The state's stem cell agency awarded a total of \$24 million in New Cell Lines Awards and Disease Team Planning Grants. The first program funds research for the development of new lines of pluripotent human stem cells, while the other funds the planning stages of an innovative model for research teams that will collaborate on therapies for a specific disease or injury. The grants received formal approval from the Independent Citizens Oversight Committee, the 29-member governing board for the Institute.

USC Ranks Third in CIRM Funding

As of July 2008, USC faculty researchers have secured more than \$50 million in funding from CIRM for projects conducted on the University's two main campuses and at Childrens Hospital Los Angeles. The combined funding figure ranks USC third in total funds awarded to date, behind Stanford University and the University of California at San Francisco.

INSTITUTION	TRAINING GRANTS	SEED GRANTS	COMP GRANTS	SHARED LAB GRANTS	NEW FACULTY GRANTS	MAJOR FACILITIES GRANTS	TOTAL	MAJOR CENTER FACILITIES GRANTS
Stanford U.	1	12	6	1	4	1	25	\$84,966,988
UCSF	1	9	7	1		1	19	\$64,531,176
USC & CHLA	2	5	1	2	2	1	13	\$52,104,973

Martin Pera, director of the Eli and Edythe Broad Center for Stem Cell and tant steps toward taking stem cell Regenerative Medicine, received a \$1.3 million New Cell Line Awards grant that will fund the development of new technologies to derive human pluripotent stem cell lines—cells that can develop into any tissue in the body-for clinical use.

"These new awards represent imporresearch into the clinic," said Pera, also a professor of cell and neurobiology at the Keck School of Medicine. "The grant to our team will enable us to make pluripotent stem cell lines that are safe for patient use from embryos or adult cells."

Three other Keck School of Medicine faculty members received Disease Team Planning grants:

• Mark Humayun, professor of ophthalmology, biomedical engineering, and cellular and neurobiology, received \$50,001 towards developing a stem cellbased treatment strategy for age-related macular degeneration, the leading cause of vision loss and blindness among the elderly.

• David T. Woodley, professor and chairman of Dermatology at the Keck School of Medicine, received a \$42,574 grant to study regenerative wound healing of the skin. The investigative team will include members from the academic departments of pathology, dermatology, surgery, and cell and neurobiology.

• Donald B. Kohn, director of the Gene, Immune and Stem Cell Therapy Program at Childrens Hospital Los Angeles, and professor of pediatrics, molecular microbiology and immunology at the Keck School of Medicine, received \$33,110 toward establishing a multidisciplinary team to develop a stem cell-based gene therapy approach to sickle cell disease.

CIRM was established when voters passed Proposition 71 in 2004 to borrow and spend \$3 billion over 10 years to support stem cell research. To date, USC faculty members have secured more than \$50 million in funding. USC is also part of the Southern California Stem Cell Scientific Collaboration, which is an agreement among six research institutions in Southern California allowing members to share training programs, scientific core facilities and expertise, and to team up on a **b** wide range of research programs.

For more information on USC's stem cell programs, visit http://stemcell.usc. edu.

New Keck School scholarship spurs research dreams

By Sara Reeve

For many medical students, their four years of study go by in a blur of lectures, labs and clinical care. Students wishing to pursue careers in academic research can be hard-pressed to find the time and opportunity to gain needed experience.

Thanks to a new scholarship, however, three Keck School of Medicine students will have a whole year to pursue their dreams of scientific discovery.

The first Dean's Research Scholarships were awarded in May to David Braxton, Matthew MacDougall and Walavan Sivakumar. Each received a \$22,000 research stipend allowing him to spend the year conducting basic science or clinical research.

"It is critically important that our medical students have the opportunity to immerse themselves in research," said Keck School of Medicine Dean Carmen A. Puliafito. "Our goal is to eventually have at least 10 percent of a medical school class-15 to 20 studentsspend a fifth year doing basic science or clinical research."

Each of the students is partnering with a faculty member to pursue innovative research projects that have the potential to improve patient care in years to come.

Braxton, who just finished his third year of medical school, will work with Martin Pera, director of the Eli and Edythe Broad Center for Stem Cell and Regenerative Medicine, to study protein cell cycle regulation and the liver.

"We're looking at potential embryonic stem cell therapies to regenerate cirrhotic liver tissue, or livers with genetic defects," said Braxton.

Sivakumar, who also just completed his third year, will study a particular form of brain tumor, glioblastoma multiforme, with Thomas Chen, associate professor of neurosurgery and co-director of the USC/Norris Neuro-Oncology Program.

"It's the most common brain tumor, with the poorest prognosis," said Sivakumar. "By better understanding what makes this tumor so resistant to treatment, we can look to improve current treatments, and create better ones, hopefully leading

See SCHOLARS, page 4



Scholarship recipients Walavan Sivakumar (left), Matthew MacDougall (center right) and David Braxton (right) meet with Keck School Dean Carmen A. Puliafito to discuss their research plans for the upcoming year.

weekly

John Leedom, professor emeritus of Keck School's Department of Medicine, 74

Bv Jon Nalick

Infectious disease expert John M. Leedom, professor emeritus of the Department of Medicine at the Keck School of Medicine of USC, died unexpectedly of a heart attack on June 27 while visiting Australia. He was 74.

Leedom served for more than 40 years at the LAC+USC Medical Center, fighting to check the spread of antibiotic-resistant bacteria and later devoting much of his efforts to battle the spread of the human immunodeficiency virus (HIV). During his tenure, he published more than 100 research papers on infectious diseases—including meningitis, polio and AIDS-and trained thousands of young physicians.

Allen Mathies, dean emeritus of the Keck School and a fellow infectious disease expert who worked with Leedom for many years, called his colleague "a remarkably compassionate physician who was also a strong teacher" whose high expectations of students pushed them to excel.

A native of Peoria, Ill., Leedom graduated from the University of Illinois in 1955 and also received his medical degree from the institution in 1958. Following his internship in Washington D.C., and his residency in Illinois,

USC SHARE Program awarded \$187,000

By Meleeneh Kazarian

The Robert Wood Johnson Foundation's State Health Reform Evaluation (SHARE) program recently awarded \$187,000 to the Keck School of Medicine Department of Family Medicine's Center for Community Health Studies.

Led by Michael Cousineau, associate professor in the Departments of Family Medicine and Preventive Medicine, and co-principal investigator Greg Stevens, assistant professor of research in the Department of Family Medicine, the USC SHARE project will evaluate how to successfully identify and enroll eligible, uninsured children in public insurance programs, a major concern in California.

Outreach and enrollment efforts will be examined in 26 counties, comparing strategies from 2001-2007 and assessing total enrollments and reenrollments in Medi-Cal, Healthy Families and Healthy Kids.

The team will conduct on-site visits, meetings and surveys to evaluate the best practices of insurance program directors, outreach and enrollment supervisors and workers, and decision-makers.

Additionally, investigators will measure the effectiveness of technology-based interventions in facilitating enrollment and re-enrollment for children and their families.

Cousineau focuses his research on the effects of health policy on the health of uninsured people, inconsistencies in health coverage, and access to care. His specific studies over the

past four years have examined efforts to expand health insurance to uninsured children in California.

"We have known for some time, that about half of all uninsured children in the state are likely to be eligible for either Medi-Cal or the State Children's Health Insurance Program called Healthy Families. So community agencies and local governments are searching for new and effective ways to find these children and get them signed up, and even more important, to the doctor or dentist if they need services," Cousineau said.

The results of this study may influence enrollments into major public health insurance programs, particularly targeting low-income and immigrant families.

The USC SHARE project team will also consist of Heather Onuma, associate director, and Albert Farias, project specialist, from the Center for Community Health Studies, and Joel Diringer, from the California

Children's Health Initiative program. The Robert Wood Johnson

Foundation is the nation's largest philanthropy devoted exclusively to improving the health and health care of all Americans. It developed the SHARE program in response to increased discussion and legislation to improve health care access.

The SHARE program focuses on health care reform and implementation in order to help state and national policy makers, agencies, and researchers develop successful health reform efforts in the future. USC is one of 15 grant recipients.

Leedom joined the Keck School of Medicine as an assistant professor in 1962. Leedom became associ-

ate professor of medicine in 1968 and professor of medicine in 1976-a position he held until retiring in 2002.

Additionally, he served

communicable diseases at the LAC+USC Medical Center from 1965

In that capacity, he witnessed the start of the AIDS epidemic in the early 1980s-and strove to treat those infected and block its spread as the first director of the Multidisciplinary AIDS Clinic and the AIDS Service in 1985. Under his direction through 2002, the AIDS Service tested many of the drugs which have helped to make HIV a survivable infection.

Fred Sattler, chief of infectious diseases at the Keck School, succeeded Leedom as chief and also as principal investigator of the large AIDS Clinical Trial Group grant at USC that Leedom established.

Sattler, who first met Leedom in 1986, said, "I was immediately impressed by his compassion and dedication to providing the highest quality care for all patients, but especially those who were underserved or who had been abandoned for care by others, in particular, those afflicted by AIDS, when the virus had not even been discovered."

Sattler said his colleague and mentor worked tirelessly with administrators, colleagues and members of the commu-



John M. Leedom

tious diseases problems seemed unequalled. Daily, students, residents, fellows and faculty colleagues came to his office and would ask [advice on] challenging cases, as they knew he would be able to help them solve the diagnosis or treatment of these most difficult cases that had evaded their skills."

He added, "For me, John's greatest quality was his unparalleled ethical standards and desire to always do the right thing, a characteristic that he instilled in hundreds, if not, thousands of trainees."

Leedom, who lived in Monterey Park, is survived by his wife, Anita, son John and daughter-in-law Megan, daughter Liane, granddaughters Lauren and Heather and grandsons Ari and Benjamin.

Donations may be made to the John M. Leedom, M.D. Memorial Fund online at http://uscsom.convio.net/ JohnLeedom or via mail at Keck School of Medicine of USC, c/o: David Eshaghpour, 1975 Zonal Avenue, Suite 300, Los Angeles, CA 90033-9026.

A memorial service will be held July 16 at the Harlyne J. Norris Cancer Research Tower's Aresty Conference Center at 3 p.m. Additionally, the family has created a Web site in his memory at: http://tinyurl.com/6mz7nm.

Etcetera

Among its list of "America's Leading African-American Doctors," Black Enterprise magazine named in its May issue three Keck School of Medicine physicians: Henri Ford, L. Julian Haywood and Oscar Streeter, Jr.

Ford is the vice president and chief of surgery at Childrens Hospital Los Angeles and professor and vice chair for clinical affairs in the Department of Surgery at the Keck School. He specializes in pediatric surgery.

Haywood, professor of medicine and cardiology at the Keck School, received the honor in 2001 as well. Cited as "a veteran of cardiovascular medicine," Haywood was one of the first African-American full professors in cardiology at a major medical school. He also co-developed digital monitoring systems for arrhythmia detection with Hewlett-Packard.

Associate professor in the Keck School Department of Radiation Oncology, Streeter is chief physician at the USC/Norris Comprehensive Cancer Center and Hospital. Principal investigator for the Radiation Therapy Oncology Group, he researches breast, head and neck, gastrointestinal malignancies and lymphomas.

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nity to establish the Rand Schrader HIV Clinic, "a true national universitybased flagship and AIDS ward at LAC+USC Medical Center." He described Leedom as

"the consummate physician, whose knowledge and wisdom in solving infec-

as attending physician for medicine and

to 2002 and as chief of the division of infectious diseases at the medical center from 1975 to 2002.

Henrietta Lee, longtime benefactor of USC/Norris Comprehensive Cancer Center, 94

By Jon Nalick

Philanthropist Henrietta C. Lee, whose donations to the USC/Norris

Comprehensive Cancer Center topped \$25 million and established two endowed cancer research chairs and a breast cancer center, died in her sleep of natural causes on June 19. She was 94.

Peter Jones, director of the USC/Norris, praised Lee's generosity as vital to the institution's goals and called her "one of the most generous donors we have ever had."

Jones said that Lee always remained involved and took personal pride in how she was able to make the lives of so many women better by her gifts: "She was so humble and always responded to a thank-you letter [for her donations] by writing back a card that said, 'It is not you who should thank me, but I who should thank the Cancer Center.'

"She was an extraordinary philanthropist and a lady of great poise—we shall miss her greatly," Jones said.

In 1997, Lee made a lead gift to establish the Harold E. and Henrietta C. Lee Breast Center, a 5,000-square-foot, state-of-the-art research and treat-



Henrietta C. Lee

ment facility located on the first floor of the USC/Norris Cancer Hospital.

She also provided funding for two endowed chairs: the Harold E. Lee Chair in Cancer Research, held by Michael Press, professor of pathology at the Keck School of Medicine, and the Henrietta C. Lee Chair in Cancer Research, whose inaugural holder was Melvin J. Silverstein, professor of surgery at the Keck School.

In 2002, she made an additional pledge to the Norris to expand research and treatment focusing on diseases affecting women. To continue her commitment to women's cancer research, Lee made a gift to establish the Lee Women's Health Center at the USC/Norris to create and advance the understanding and care of female-specific cancers and the ability to diagnose and treat by integrating patient care, research, prevention and education.

Henrietta C. Lee was born outside of Amsterdam and moved to the United States with her family at the age of 15, settling in Long Beach, California. She grew up working at her father's dairy farm in nearby Cypress, milking and feeding cows and helping with the business.

There, she met Harold Lee, who would later become her husband. Harold Lee owned a construction company and specialized in construction work for dairy farms. After they were married, Henrietta Lee helped her husband's sister, June, with the bookkeeping for the construction company. Their main office was in Garden Grove, and much of their building work was done in the Chino area.

After her husband's death in 1990 and facing her niece's fight against cancer, Henrietta Lee had a growing desire to help fight the disease.

She began with two \$5,000 donations to USC to help people afflicted by cancer, she said, but wanted to do more. "I wanted to be involved in fighting cancer," she said in an interview in 2002. And so the Harold E. and Henrietta C. Lee Breast Center was born.

Most of her previous work in supporting health care and medicine was in Orange County, where she served as treasurer for an annual golf tournament at Los Coyotes Country Club benefiting Children's Hospital of Orange County.

USC study analyzes use of therapy dogs for rehabilitation of autistic patients

By Beth Dunham

Illustrating her research, USC occupational therapist Olga Solomon plays a video of a severely autistic young boy and his parents: the boy avoids eye contact and ignores questions—both signs of the socially debilitating effects of the brain development disorder.

But in the next video Solomon plays—of the same boy playing fetch with a trained therapy dog—the child giggles wildly as the dog returns a thrown tennis ball. Somehow, the dog has managed to make a connection with the youngster, and the simple, but priceless, interaction brings his parents to tears.

Solomon, research assistant professor in USC's Division of Occupational Science and Occupational Therapy, is investigating the social benefits of therapy animals for autistic children, funded, in part, by a 2008 Individual Award from USC's James H. Zumberge Faculty Research and Innovation Fund of \$23,000. For her project, "Animal Assisted Therapy as Socially Assistive Technology: Implications for Autism," Solomon will analyze over 65 hours of video she's collected since beginning her research into animal-assisted autism therapy in 2003. The videos, chronicling sessions with five autistic children from 3 to 14 years old, document breakthroughs in the children's social interaction skills, increases in attention levels and improvements in family relationships.

"We want to articulate what's going on in these interactions," Solomon said. "We've collected very compelling data."

The Zumberge award targets newer faculty to help them launch their research careers, according to the grant Web site. Solomon's project mentor is Maja Mataric, professor of computer science and neuroscience and senior associate dean for research at the USC Viterbi School of Engineering. Mataric's research delves into the use of robotics for socially assistive purposes, including rehabilitation.

"People used to think that rehabilitation was just for achieving physical goals," Solomon said, "but it can

also help someone improve socially."

Solomon, who arrived at USC in 2005 and has been researching autism and communication since 1997, said that a walk in the park several years ago with her border collie led her to explore animal therapy for autistic patients. After fetching a Frisbee, her dog dropped the disc at the feet of a little girl nearby, who picked it up and gave it a toss. Her tearful father approached Solomon, explaining that his daughter was autistic, and such interaction was very rare. He offered to buy the dog "at any sum."

"I never forgot that moment," Solomon said.

Solomon hypothesizes that interactions with welltrained therapy dogs—which are simple, predictable and very rewarding social partners—help autistic children practice social interaction and fill gaps in social behaviors that didn't develop earlier in childhood. In the future, she hopes to study the results of adding animal therapy to existing clinical programs for people with autism.

Keck School pediatrician Francine Kaufman receives 'Physician Humanitarian Award'

Francine R. Kaufman, professor of pediatrics at the Keck School of Medicine and professor of communications at the Annenberg School of Communications, has been named recipient of the 2008 Physician Humanitarian Award from the California Hospital Medical Center.

The Los Angeles Humanitarian Awards were inaugurated in 1986 to cantly improved the quality of life in Los Angeles. In 1991, the Physician Humanitarian Award was established to pay tribute to the unselfish and compassionate efforts of physicians who exemplify the mission and values of California Hospital Medical Center. Kaufman, who is also director of the

recognize the leadership and contribu-

tions of individuals who have signifi-

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This page will be activated in case of an emergency. Backup Web servers on the East Coast will function if the USC servers are incapacitated.

Call the Emergency Information Phone: 213-740-9233

The emergency telephone system can handle 1,400 simultaneous calls. It also has a back up system on the East Coast. Comprehensive Childhood Diabetes Center and head of the Center for Endocrinology, Diabetes and Metabolism at Childrens Hospital Los Angeles, recently accepted the award at a gala dinner at the Millennium Biltmore Hotel in Los Angeles.

In March 2008, Kaufman received the 2008 Jacki Carlish Humanitarian Award from Starlight Starbright Children's Foundation. The Jacki Carlish Humanitarian Award recognizes an individual with the highest level of personal commitment to Starlight. It was named for a founding member of Starlight, who dedicated her life to ensuring that sick children still



Humanitarian award recipient Francine Kaufman (center) appears with Steve Needleman (right), president of the California Hospital Medical Center Foundation Board, and Faye Lee, the 2006 Physician Humanitarian Award recipient.

had a chance to be kids.

Kaufman was recently featured as the host of "Diabetes: A Global Epidemic," an hour-long, critically acclaimed documentary on the Discovery Health Channel.

Calendar of Events

The HSC Calendar is online at www.usc.edu/hsccalendar

Monday, July 14

4 P.M. "Transplant Conference," Various transplant faculty. UNH Salerni Rm. Info: (323) 442-9093

Tuesday, July 15

NOON. Cancer Ctr. Grand Rounds. "PAK Signaling in Cancer Cells," Rakesh Kumar, Univ. of Texas at Houston. NOR 7409. Info: (323) 865-0801

Wednesday, July 16

7 A.M. Medicine Grand Rounds. "Diabetic Nephropathy," Abid Rizvi, USC. GNH 1645. Info: (323) 226-7556

8:30 A.M. "Bronchoscopy II," Ching-Fei Chang, USC. GNH 11-321. Info: (323) 226-7923

Friday, July 18

8:30 A.M. "Airway Management I," Ricardo Juarez, USC. GNH 11-321. Info: (323) 226-7923

Monday, July 21

4 P.M. "Research in Progress," Various speakers. GNH 10-340. Info: (323) 226-7307

Tuesday, July 22

9 A.M. Neurology Grand Rounds. "Quantifying Physical Function: Current Studies in the USC Musculoskeletal Biomechanics Research Laboratory," George Salem, USC. ZNI 112. Info: (323) 442-7686

NOON. Cancer Ctr. Grand Rounds. "8q24 and Cancer Risk," Chris Haiman, USC. NOR 7409 Info: (323) 865-0801

Wednesday, July 23

7 A.M. Medicine Grand Rounds. "Sleep Disordered Breathing," Kendra Becker, USC. GNH 1645. Info: (323) 226-7556

8:30 A.M. "Airway Management II," Ricardo Juarez, USC. GNH 11-321. Info: (323) 226-7923

Friday, July 25

8:30 A.M. "Cystic Fibrosis," Adupa Rao, USC. GNH 11-321. Info: (323) 226-7923

Monday, July 28

4 P.M. "Transplant Conference," Various transplant faculty. UNH Salerni Rm. Info: (323) 442-9093

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 HSC 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

HSC NEWSMAKERS

A July 8 Washington Post story highlighted research by cardiologist Uri Elkayam and colleagues, who found that although heart attacks are rare among young women, becoming pregnant doubles or triples a woman's risk.

On July 2, CBS News quoted pharmacologist **Roger Clemens** about watermelon as a natural Viagra. He was also quoted in a June 27 CNN story about mixing the caffeinated energy drink Red Bull with alcohol.

A June 30 Los Angeles Times article quoted preventive medicine expert Jonathan Samet about the causes of emphysema.

A June 26 New Scientist article quoted Childrens Hospital Los Angeles diabetes expert Francine Kaufman about fructose consumption.

A June 25 Washington Post story quoted neurology researcher Michael Jakowec in a widely carried story about links between treatments for Parkinson's disease and compulsive disorders.

Complete listing at: www.usc.edu/uscnews/usc_in_the_news/

A June 23 Los Angeles Times article quoted CHLA's Robert Adler in an article about patients traveling to find doctors to treat unusual conditions.

A June 23 Los Angeles Daily News article noted that the American Cancer Society offers free information and services at participating hospitals, including the USC/Norris Cancer Hospital.

A June 19 Op-Ed in the San Francisco Chronicle highlighted a blind man who underwent surgery at the USC Doheny Eye Institute that partially restored his vision.



days, and I already feel like I'm doing real science."

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LAB ACHIEVEMENT—Haihui Lu (far right), a biochemistry student in USC's Programs

their biochemistry research in an upcoming issue of Molecular Cell. Their work shows how the complex gene assembly process of the human immune system can now be

achieved using 13 purified proteins in test tube—a long sought-after achievement that may pave the way for more effective treatments for lymphomas and lymphoid

leukemias. From left: Michael Lieber, the Rita and Edward Polusky Professor in Basic

Cancer Research at the Keck School; Go Watanabe, PIBBS student of genetic, molec-

ular and cellular biology; Jiafeng Gu fourth-year doctoral student of molecular and

SCHOLARS: Award helps build research credentials

Matthew MacDougall turned down an opportunity at the Howard Hughes

Medical Institute to stay at USC for a fifth year. Working with Charles Liu, assis-

tant professor of neurological surgery, MacDougall will study artificial extracellular

completely brand new. I'd be building this project, and at the end of the year, have no tangible results," said MacDougall. "By staying at USC, I'm working on estab-

matrix proteins and their potential as therapy for brain injuries or degeneration. "Without this scholarship, I would be in D.C., working on a project that was

lished projects with established relationships. I've only been working for a few

The Dean's Research Scholarships are a key component of Dean Puliafito's

strategy to recruit a new generation of research scientists and build USC's research

"I want to pursue a career in academic research and this is really my best chance to establish the research background needed," said Braxton. "There aren't a lot of

avenues to help medical students with the resources needed to devote the time and

energy to important research, and that's why this scholarship is so important."

computational biology; Noriko Shimazaki, postdoctoral fellow; and Lu.

Continued from page 1

portfolio.

to better outcomes for patients."

in Biomedical and Biological Sciences (PIBBS) and several of her peers will publish