Norman Levan leaves remarkable legacy
$12 million bequest supports scholarships and ethics programs

When Norman Levan, MD, professor emeritus and former chief of the Department of Dermatology at the Keck School of Medicine of USC, passed away in 2014 at the age of 98, he left a gift to the school that had been a major part of his life. A bequest totaling $12 million was given to the Keck School — $10 million to support scholarships and $2 million in support for the Norman E. Levan Chair in Medical Ethics, which he established in 2010 with an original gift of $2 million. Additionally, in 2007, Levan donated nearly $6 million to establish the USC Levan Institute for Humanities and Ethics, bringing the total of his donations to $20 million.

“Norman Levan was a gifted clinician and so much more,” said Dean Carmen A. Puliafito, MD, MBA, who gave the eulogy at Levan’s funeral. “He was an intellectual with boundless curiosity about human nature and the human condition, which explains why he thought that medicine and medical ethics was so vitally important.”

This generosity reflects Levan’s 82-year connection with USC. At the age of 16, Levan enrolled as a literature major at USC for his undergraduate studies. He returned to USC to attend the Keck School of Medicine, from which he graduated in 1939. After serving in the Army Medical Corps during World War II, he began a practice in dermatology and joined the faculty of the Keck School. He was chair of the Department of Dermatology for 20 years, from 1961 to 1981. During that time, he established the Hansen’s Disease Clinic for leprosy at LAC+USC Medical Center. Levan practiced medicine for 70 years and saw patients at his private practice in Bakersfield until the age of 95.

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**Gift establishes Global Medicine Fellowship**

A gift of more than $600,000 from Atul Dhablania and his wife Incha Kim to the Keck School of Medicine of USC will advance global medicine research and health-care professional training and delivery.

“I am exceptionally grateful for this gift that will establish a unique fellowship program at the Keck School of Medicine of USC,” said Dean Carmen A. Puliafito. “There are no boundaries between countries when it comes to illness, and this generous gift from the Dhablania and Kim family will provide unique experiences for members of the Keck community to study this firsthand.”

The Dhablania and Kim Family Global Medicine Fellowship program will benefit the USC community and its worldwide outreach, supporting medically related research and training in global medicine and health among USC’s graduate students, medical students, residents, faculty and health-care professionals.

The funding will promote equality of health around the globe by providing a new avenue for training and research among the USC community. In summer of 2015, the first Dhablania Fellows will travel to multiple continents to gain insight into health and wellness and its worldwide outreach, supporting medically related research and health-care professional training and delivery.

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This significant gift from Dhablania and Kim reflects their visionary understanding of the directions in which globalization and technology are moving health and health care in our world,” said Associate Dean Elahe Nezami, PhD, associate professor of clinical preventive medicine and chair of the fellowship committee. “Their exceptional generosity will allow the Keck School to lead the way in educating and training students, researchers and clinicians about the importance of health care in a global context — and to better serve humanity’s needs.”

**Norman Levan leaves remarkable legacy**

*Continued from page 1*

Although the monetary gifts were remarkable, perhaps the greatest contribution Levan made to the Keck School was integrating ethics into the medical curriculum. Having an undergraduate degree in the humanities and collaborating with a USC religion professor, Levan helped to create the Keck School’s first classes in bioethics, which led to required ethics classes for medical students at the Keck School.

Levan’s legacy will continue to influence students at the Keck School of Medicine of USC for generations to come. Along with scholarship opportunities, the USC Levan Institute for Humanities and Ethics will continue to provide opportunities for Keck School students to engage in multidisciplinary dialogue, discuss and reflect on moral decision-making with regard to medicine, and develop innovative methods to respond to society and the world as ethical health care professionals.

“Levan’s contributions will transform the lives of countless students who will leave this university and go on to change the world,” said USC President C. L. Max Nikias.

**Star-studded gala ‘Changing Lives and Creating Cures’**

The event was named after Louis Zamperini, a World War II prisoner of war, Olympic athlete, USC alumnus and prostate cancer survivor, who embodied the courage needed to survive life’s toughest challenges. Zamperini is the subject of the best-selling book, “Unbroken,” which is now a motion picture directed by Angelina Jolie.

The USC Institute of Urology biannual gala event draws more than 500 leading businesspeople, philanthropists, entertainment industry executives, medical and health care professionals, celebrities, media and other VIPs from Los Angeles and around the country to raise awareness and funds for the cancer-fighting robotic and open surgery treatments, research efforts and world-class programs for men and women’s pelvic-health issues.

**Derrick Hall honored at ‘Changing Lives and Creating Cures’ gala**

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USC research named ‘Best of 2014’ by the journal Cell

Research developed at the Keck School of Medicine of USC has been selected as one of the top 10 research papers of 2014 by the journal Cell. A team led by Hong-Wei Dong, MD, PhD, professor of neurology, presented the first comprehensive mapping of the mammalian cerebral cortex in “Neural Networks of the Mouse Neocortex,” originally published in the February 2014 issue of Cell, one of the top journals in biomedical science.

The paper was also recognized on the historical “40 years of Cell” timeline as one of the only two landmark papers of 2014. Several researchers on this timeline have gone on to win Nobel Prizes.

“The paper is groundbreaking in that it is the first comprehensive mapping of the most developed region of the mammalian brain: the cerebral cortex. This part of the brain is the outermost layer of neural tissue and involved in higher-order functions such as cognition, emotion and consciousness. The cerebral cortex is one of the most extensively studied brain structures in the field of neuroscience.

Prior to this study, it was believed that the cerebral cortex was a dense single interrelated tangle of neural networks. Dong and his team at the USC Institute for Neuroimaging and Informatics, however, identified eight distinct neural subnetworks in the mouse cerebral cortex, meaning there is a logical underlying organizational pattern. These subnetworks form the connectivity infrastructure of the mammalian cortex.

“The brain is built for logic, so its organization must be logical,” said Dong. “We want to find the code to how the brain is structurally organized.”

To create a visible comprehensive map of the mouse cerebral cortex, researchers injected and tracked fluorescent molecules to illuminate neural pathways.

To develop a comprehensive atlas of brain pathways, the researchers injected fluorescent molecules across the mouse cerebral cortex and then tracked these molecules using a high-resolution microscope.

“Collecting the data requires highly specialized skills and technology,” said Dong. “But, think of the Human Genome Project and how much it accelerated the process of discovery and the whole field when infrastructures existed for people to share and compare. That was our motivation.”

This research is part of the Mouse Connectome Project, funded by the National Institutes of Health, which aims to create a three-dimensional digital connectome atlas of the mouse brain. To share these findings with other scientists, the researchers created an open-access, searchable image database of cortical connections of the cerebral cortex at http://www.mouseconnectome.org/.

Author gives talk on advancements in cancer treatment

Cancer has stumped physicians and scientists for hundreds of years. Major discoveries have advanced our understanding of cancer and how to treat it, but there is still far more to learn.

“Cancer remains the most significant challenge in the history of medicine,” said Siddhartha Mukherjee, MD, PhD, assistant professor of medicine at Columbia University.

Mukherjee, the author of a Pulitzer Prize winning best-selling book titled, “The Emperor of All Maladies: A Biography of Cancer,” spoke last year at Mayer Auditorium at the Nancy Short Lecture, which honors the life of Nancy Short, who died of ovarian cancer in 2010.

Nancy Short’s husband, actor and comedian Martin Short, opened the lecture by stating that his wife’s passing led him to become an advocate for cancer research and education. “The knowledge that can be obtained through lectures like this is enormous,” said Short.

To illustrate how far our understanding has come, Mukherjee pointed to the first recorded case of cancer, written in papyrus, which said there was no way to help patients. He cited advances in treatment in recent years, such as: improvements in chemotherapy, research leading to a greater understanding of cancer’s cellular workings, and ongoing experiments with immunotherapy.

Mukherjee compared the understanding of cancer to an iceberg, saying that despite all the progress, most of its physiology is still hidden from view. In order to find new and better treatments, scientists must continue to push for more research on the disease.

“Our understanding of cancer physiology is still incomplete,” said Mukherjee. “There is still much more to learn about what signals the growth of cancer and how to shut it off.”
Keck School of Medicine of USC catapults into Top 10 in NIH funding of otolaryngology research

The Keck School of Medicine of USC climbed 30 spots in two years to join the country’s 10 highest funded medical schools by the National Institutes of Health (NIH) for 2014 otolaryngology research, according to an independent analysis by the non-profit Blue Ridge Institute for Medical Research.

In 2014, the Department of Otolaryngology - Head and Neck Surgery received $3.25 million of $85 million in NIH awards targeted to clinical otolaryngology departments across the country, vaulting to No. 10 of NIH-funded programs and surpassing the likes of Harvard University, New York University and UC San Francisco.

An additional $2.8 million in NIH funding was transferred to the department in 2014 from other institutions’ existing research programs now at USC.

“The vibrant community of scientists at USC has attracted top-notch research programs from the House Research Institute, the University of Michigan and Johns Hopkins University over the last two years, providing a critical mass of investigators dedicated to the communication sciences and placing us among the world’s elite clinical otolaryngology departments,” said John K. Niparko, MD, professor and chair of otolaryngology at the Keck School of Medicine of USC.

Niparko, an internationally renowned otoneurologic surgeon and researcher, came to USC from Johns Hopkins in February 2013, bringing with him more than $2.5 million in NIH and foundation grants that year alone. The department has grown since, adding 16 full-time faculty clinician-scientists and basic scientists, including seven who serve as principal investigators on NIH-supported studies.

NIH-funded hearing research programs at USC include the study of genetic predispositions to age-related hearing loss, exploring stem cell therapy for restoring hearing loss and evaluating the effectiveness of cochlear implantation and auditory brainstem implants in deaf children.

USC hosts stem cell agency’s 10th birthday bash

In 2004, the voters of California created the California Institute for Regenerative Medicine (CIRM) to dispense $3 billion to fund stem cell research in the state. This year alone, 10 CIRM-funded projects, including ones based at USC, are expected to be approved for clinical trials.

To celebrate this milestone, CIRM held an event November 20 at the Eli and Edythe Broad CIRM Center for Regenerative Medicine and Stem Cell Research at USC.

“With this funding, our researchers — and researchers in 11 other facilities throughout the state — gained dedicated space to hunt for cures for some of the most pernicious diseases in the world, including heart disease, stroke, cancer, diabetes, Alzheimer’s disease and Parkinson’s disease,” said Dean Carmen A. Puliafito.

Puliafito welcomed a distinguished panel of speakers, including Jonathan Thomas, PhD, JD, chairman of CIRM’s governing board; Bob Klein, who led the drive to create CIRM; Dhruv Sareen, PhD, from Cedars-Sinai; Eugene Brandow, PhD, from ViaCyte; Gay Crooks, MBBS, from UCLA; and patient advocate Fred Lesikar.

City of Hope’s John Zaia, MD, discussed his collaboration with Sangamo BioSciences on a CIRM-funded HIV/AIDS clinical trial. CIRM also supported the early-stage development of a technique for genetically modifying blood-forming stem cells to cure HIV/AIDS, pioneered by Zaia and David DiGiusto, PhD, from City of Hope; scientists at Sangamo Biosciences; and Paula Cannon, PhD, from USC.

The head of USC’s department, research center and university-wide initiative in stem cell biology and regenerative medicine, Andy McMahon, PhD, FRS, underscored the importance of this HIV/AIDS trial. He also mentioned other USC-led clinical trials that are exploring stem cell-related treatments for Alzheimer’s disease, the dry form of age-related macular degeneration, knee osteoarthritis and immune damage from chemotherapy.

“I’m personally very excited and hopeful about the future of stem cell research in California,” McMahon said. “The public support of our work through Proposition 71 has enabled our own researchers to spearhead important new research programs and to develop new therapeutic approaches. But as important, CIRM funding has brought together powerful, cross-institutional teams that have united research around the goals of regenerative medicine to treat a host of diseases affecting humanity.”
Keck Medicine of USC was one of the sponsors for the AARP Movies for Grownups Gala on February 2, 2015. Dean Carmen A. Puliafito was pictured at the event with 1) actor George Takei; 2) 2015 Oscar winner J.K. Simmons; 3) actress Jane Seymour; 4) author and former First Lady of California Maria Shriver; 5) actress Valerie Harper; 6) actress Joan Collins; and 7) actors Kevin Costner and Octavia Spencer. (Photos 1-6 by Steve Cohn)