

## L.A. benefactor pledges \$5M to Alzheimer's research at USC

Zlokovic named holder of newly endowed chair; brings total Zilkha giving to \$30M

By Alison Trinidad

Los Angeles residents Selim Zilkha and Mary Hayley are raising the stakes in the fight against Alzheimer's disease, the only cause of death among the top 10 in the United States that cannot currently be prevented, cured or slowed.

Zilkha, a member of the Keck School of Medicine of USC Board of Overseers, has pledged a gift of \$5 million to the school to fund a new endowed chair in Alzheimer's disease research. This latest gift brings Zilkha's total giving to neuroscience research at the Keck School to more than \$30 million.

"We are deeply grateful to Selim and Mary for their vision and support," said Carmen A. Puliafito, MD, MBA, dean of the Keck School. "Through their extraordinary philanthropy and outstanding leadership, they are helping to support prolific and groundbreaking research in degenerative neurological diseases."

Alzheimer's is a degenerative brain disorder that leads to memory loss and changes in thinking and other brain functions. Today, more than 5 million Americans suffer from Alzheimer's disease, the sixth leading cause of death in the United States,

according to the Alzheimer's Association.

"My mother and eldest brother suffered from Alzheimer's, and later my eldest sister from dementia," said Zilkha. "These are terrible diseases. If we don't do something about it, by 2050 the number of people in the United States with Alzheimer's or dementia may nearly triple from 5 million to a projected 13.8 million. We must make every effort to arrest and reverse this progression."

An owner in Zilkha Biomass Fuels, Zilkha is known for the breadth of his vision both as an innovative and successful entrepreneur and as a medical benefactor.

Zilkha established the Zilkha Neurogenetic Institute (ZNI) at USC with a \$20 million gift to the Keck School in 2002. He reaffirmed his commitment to Keck Medicine's research efforts in 2011 with a \$5 million gift for recruitment of senior scientists and investigators to the institute. This latest gift establishes the Mary Hayley and Selim Zilkha Chair for Alzheimer's Disease Research to directly support and advance research



Steve Cohn

Pictured from left are Keck School of Medicine of USC Dean Carmen A. Puliafito, MD, MBA, with philanthropists Mary Haley and Selim Zilkha.

efforts into the causes, treatments and understanding of Alzheimer's disease.

ZNI Director Berislav V. Zlokovic, MD, PhD, professor and chair of the Department of Physiology and Biophysics at the Keck School, has been named the inaugural holder of

the chair.

Zlokovic is an eminent scientist-clinician whose research has focused primarily on the relationship of vascular problems to Alzheimer's disease. He was a pioneer of the concept that

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## Dean's Distinguished Lecturer discusses overeating, appetite in American culture

By Amy E. Hamaker

Have you ever felt driven to eat something sweet, even when you didn't want to? The reason for this drive may be the high levels of sugar, fat and salt in food, which produce a dopamine hit that alters brain chemistry, according

to David Kessler, MD, professor of pediatrics and epidemiology and biostatistics at the University of California, San Francisco, School of Medicine.

Kessler's comments came during his lecture on Nov. 12 as part of the Dean's Distinguished Lecture Series, held in Mayer Auditorium. His focus was from his book, *The End of Overeating: Taking Control of the Insatiable American Appetite*.

Keck School Dean Carmen A. Puliafito, MD, MBA, introduced Kessler, reminiscing about their shared time together as classmates at Harvard Medical School. Kessler's career includes time as the head of the U.S. Food and Drug Administration, and dean of the medical schools at Yale University and the University of California, San Francisco. Kessler became interested in obesity in 2008.

During his presentation, Kessler noted that adult weight in the United States remained relatively stable during the 1960s. However, over the past four decades, adult weight has steadily increased. "People are entering their 20s 18 pounds heavier on average," he said. "Weight set points are a myth; if there was a weight set point, we wouldn't be getting bigger."

In animal studies, said Kessler, animals would normally habituate to foods with fat, salt and sugar — meaning that they lose their cravings for these foods when they were presented on a limited basis. However, animals do not habituate to wanting the combination of fat, sugar and salt when regularly fed what he calls a "supermarket diet," high in foods containing a combination of fat, sugar and salt.

Kessler added that there

See **OVEREATING**, page 3



Jon Nalick

David Kessler, MD, interacts with Keck School of Medicine of USC students, staff and faculty about why people feel compelled to overeat.

## New year, new name for *The Weekly*!

The New Year is almost here — time to make new resolutions! We've resolved to make *The Weekly* an even better resource for Health Sciences campus (HSC) news and events.

One of the most exciting changes is its new name — *The Weekly* is becoming *HSC News!* The name better reflects what we do: Bring news to the USC

community that has an interest in the Health Sciences campus. Look for our first issue of *HSC News* on Jan. 10.

Along with the name change, there are some exciting new features coming in 2014:

- **New web page:** Our new mobile-friendly web page will make its debut in January! You'll find regularly updated news, an events calendar and more.

- **New e-newsletter:** Get a digest of the latest USC health sciences news delivered to your inbox each week. (To sign up, email [hscwky@usc.edu](mailto:hscwky@usc.edu).) As always, we welcome your comments, suggestions and story ideas. Email the editor at [hscwky@usc.edu](mailto:hscwky@usc.edu).



# Keck Medicine and Operation Walk offered free joint replacements

By Amy E. Hamaker

Patricia Domay is a busy woman. At 72 years old, she caters for commercial video shoots, work she's done for nearly 30 years. She grows her own organic vegetables, bakes an amazing coffee cake and charms those around her with her sunny personality.

In fact, the only thing that slows her down is her hip: The cartilage in Domay's left hip joint has been worn away completely for nearly eight months, and the pain has taken its toll. "My work is really strenuous," she said. "Events are 10- to 12-hour days, plus an additional two days of prep work — all on my feet. I've always been very athletic — I've raced motorcycles, competed in tournament racquetball and hiked. It's all hard on your body, but you don't think about it when you're young."

Unfortunately, Domay is also unable to qualify for traditional or government-assisted health insurance. Previous treatment for breast cancer initially made Domay ineligible for traditional health insurance. And although Domay rents an apartment in Newhall, Calif., close to her work, she also owns a tiny 600-square-foot cabin in Mojave, Calif., as the place where she will ultimately retire — making her ineligible for MediCal coverage as well.

"The last time I saw my orthopaedist [Daniel Oakes, MD, associate professor of clinical orthopaedics] for a regular appointment, he said, 'Why haven't we done hip replacement surgery for you?'" said Domay. "I just fell through the cracks of the system."

Thanks to Keck Medicine of USC's work with Operation Walk USA, a private, nonprofit volunteer group that

provides free joint surgery, on Dec. 6 Domay and four other patients received a chance to regain their active lifestyles through hip and knee replacements.

Currently in its third year, Operation Walk USA is a volunteer effort on behalf of more than 120 orthopaedic surgeons and 70 participating hospitals in 32 states.

Five Keck Medicine orthopaedic surgeons, all joint preservation experts, participated in the program: Lawrence Dorr, MD, professor of clinical orthopaedics at the Keck School of Medicine of USC; Paul Gilbert, MD, adjunct assistant professor of clinical orthopaedics; Jay Lieberman, MD, professor and chair, Department of Orthopaedic Surgery, and orthopaedist-in-chief of the Keck Medical Center of USC; Donald Longjohn, MD, assistant professor of clinical orthopaedics; and Oakes. Between them, the surgeons worked on six joints, including one bilateral hip, two right hips, one left hip and two right knees.

Operation Walk USA is an outgrowth of Operation Walk, founded in 1996 by Dorr. It provides free joint surgery for patients in developing countries. Dorr, Oakes and Michael Karp, MD, assistant professor of clinical medicine, recently led a group of 50 volunteer health care providers to Guatemala.

Domay is excited about the prospect of a new hip joint. "I told my culinary assistant that he has to take me Cumbia dancing once I'm back on my feet," she said. "I want to walk with my neighbors out in the desert. I can't wait to get this done. I told the therapists the trouble they'll have with me is keeping me down."



Jon Nalick

Patient Patricia Domay works with a therapist during her pre-operative appointment before total hip replacement surgery on her left hip. Domay received a new hip from Daniel Oakes, MD, associate professor of clinical orthopaedics through Keck Medicine of USC's participation in the Operation Walk joint replacement program.

# Keck School Cell & Neurobiology chair receives AAMC teaching award

By Sara Reeve

For Mikel Snow, PhD, it's an honor just to be nominated. The chair of the Keck School of Medicine of USC's Department of Cell & Neurobiology has received the 2013 Alpha Omega Alpha (AOA) Robert J. Glaser Distinguished Teacher Award from the Association of American Medical Colleges (AAMC).

"I feel incredibly honored, even humbled by the magnitude of this award," said Snow. "To be honest, I was deeply touched by the gesture of last year's USC AOA [chapter] students who told



Courtesy Mikel Snow

me they would be nominating me. I do not think of myself in terms of anyone special, but rather someone who was fortunate to stumble into a teaching career that I happened to enjoy very much."

The Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Awards were established by the AOA medical honor society in 1988 to provide national recognition to faculty members who have distinguished themselves in medical student education. Each medical school in the United States and Canada may nominate only one faculty member.

In addition to being a professor of cell & neurobiology and chair and director of medical education at USC, Snow also is the director of anatomy.

"I am fortunate to be teaching a subject that involves small groups, in that six students act as a team to dissect one donor (cadaver)," said Snow. "Working in the lab allows me to address the needs of individual students, determining what they know and don't know and filling in the gaps. This is extremely rewarding because I get to see a lot of 'ah-ha' moments."

"But the most rewarding aspects of my teaching happen to be the incredible people I get to teach," he continued. "Medical students are not only very bright, highly motivated and eager

to learn, they also happen to be altruistic, respectful and very appreciative of our teaching efforts. In short, they are a pure joy."

The award includes \$10,000, as well as \$2,500 for teaching activities, and \$1,000 to support the activities of USC's AOA chapter.

"As an educator, administrator, and mentor, Dr. Mikel Snow is nothing short of exemplary," wrote Carmen A. Puliafito, MD, MBA, dean of the Keck School, in his nomination letter. "Dr. Snow is a pillar of the medical school and integral to students' success."

The Weekly

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### Did you know...

Forty years ago, the USC Norris Comprehensive Cancer Center was chosen to be one of the first outposts in the nation's newly declared war on cancer.

As one of the first eight specially designated comprehensive cancer centers in the county, USC Norris Comprehensive Cancer Center has helped transform cancer care and treatment. It continues to be at the forefront of cancer research and treatment and is poised to make many more significant contributions in the future.

"The future of research and patient care at USC Norris is defined by bringing our discoveries to our patients," said Stephen Gruber, MD, PhD, MPH, director of USC Norris. "It's always difficult to project ahead 40 years, but we can say that within the next five to 10 years, we will base our therapeutic decisions on using precision medicine to guide our choices — getting the right drug to the right patient for the right tumor."

# USC researchers to grow organs to unlock cancer tumor development

By Leslie Ridgeway

Using three-dimensional organ creation, Keck Medicine of USC researchers aim to discover clues to metastatic cancer growth by developing a first-ever integrated bioengineered/computational model of metastatic colon cancer.

David B. Agus, MD, director of the USC Center for Applied Molecular Medicine and professor of medicine at the Keck School of Medicine of USC, is the principal investigator of a \$2.3 million, four-year “Provocative Questions” grant awarded recently by the National Cancer Institute (NCI), a division of the National Institutes of Health (NIH). The project title is “An Integrative Computational and Bioengineered Tissue Model of Metastasis.”

The goal of the research

is to develop functional, bioengineered liver “organoids” in which colon cancer tumors can be grown and studied, Agus said. The research team will inject the liver organoids with cancer cells and watch as the cells grow into tumors and function within the organoids. The research combines bioengineering techniques developed at Wake Forest University with computational models of tumor growth developed at USC.

“Studying cancer metastasis in the lab is problematic because of discrepancies between cell culture models and tumor growth in living organisms,” he said. “We need a much better understanding of the way cancer cells and the organ microenvironment interact. Our research merges the methods of physical science, regenerative medicine

and tissue engineering to create a tissue model that approximates the actual environment where tumors live.”

The liver models will have value to other cancer researchers seeking to attack tumor growth from different angles, said Shannon Mumenthaler, PhD, assistant professor of research in the Department of Medicine at the Keck School and one of the project leads.

“This exciting and novel reproducible, controllable system we are creating will also enable researchers to test hypotheses and make predictions that can be extrapolated to human cancer,” Mumenthaler said.

The first phase of the project involves calibrating the model with data from bioengineered liver tissue.



Mark Harmel

David B. Agus, MD (center), is principal investigator of a new \$2.3 million National Cancer Institute grant to create bioengineered models of metastatic colon cancer.

Phase two will subject the growing tumors to physical changes likely to affect them in the human body, including alterations to oxygenation and drug treatment. In the third phase, the team will compare simulations of tumor growth in actual patients with outcome data

from these patients.

The Provocative Questions program, launched in 2012, is based on 20 important questions from the research community and is intended to stimulate researchers to seek out especially effective and imaginative ways to study cancer.

## ZILKHA: Zlokovic named new chair

Continued from Page 1

linked impaired blood flow and flaws in the blood-brain barrier to the development of diseases such as Alzheimer’s through their impact on neurons. He is currently the principal investigator for numerous grants, including two National Institutes of Health-funded R37 awards to study pathogenesis and new therapeutic targets in Alzheimer’s disease.

“Professor Zlokovic’s translational research in neurodegenerative disorders and the blood-brain relationship is forging a promising path toward the discovery of cures for debilitating health problems that affect millions of people,” said Elizabeth Garrett, USC provost and senior vice president for academic affairs. “His influential work at ZNI will continue to advance through the generous support provided by Selim Zilkha and Mary Hayley in establishing this endowed chair.”

“Since the National Alzheimer’s Project Act was signed into law in 2011, we now have a plan that intends to prevent and effectively treat Alzheimer’s disease by 2025,” Zlokovic said. “We hope that our research will contribute to that goal by paving the way for development of new treatments and early diagnostics for this devastating disease.”



Jon Nalick

**EPIGENETICS AND YOU** From left, Stephen Gruber, MD, MPH, director of the USC Norris Comprehensive Cancer Center; Peter Jones, PhD, Distinguished Professor of Urology and Biochemistry & Molecular Biology; and Art Ulene, MD, a board-certified obstetrician-gynecologist, author and speaker, addressed attendees at the Norris Friends and Family luncheon on Nov. 21. Norris Ambassadors — a group of supporters of the USC Norris Comprehensive Cancer Center who help promote the cancer center’s mission — invited family and friends to the event to hear Jones’ lecture on “How Cancer Epigenetics Affects You.”

## The Weekly NEWSMAKERS

An article in the November 2013 issue of *Orthopedics Today* featured an interview with **C. Thomas Vangsness, Jr., MD**, professor of orthopaedic surgery at the Keck School, about the high cost of conducting clinical trials to ensure the safety and efficacy of using stem cell therapies in orthopedics. “The FDA wants good manufacturing practices with clinical trials showing statistical improvements of any treatment regimen before releasing these treatments to the public,” Vangsness said.

An article in the November/December 2013 issue of *Le Monde De L’Intelligence* (France) featured an interview with **Thomas Valente, PhD**, professor of preventive medicine at the Keck School, and colleagues about his research that shows teenagers can be influenced to try alcohol or smoke cigarettes by looking at their friend’s online photos. The study was co-authored by **Grace Huang, PhD, MPH**; **Jennifer Unger, PhD**; **Daniel Soto, MPH**, and **Mary Ann Pentz, PhD**, all of the Keck School, and **Maryalice Jordan-Marsh, MSN, PhD**, of the USC School of Social Work.

## Year-end IRA charitable rollover opportunity for giving

A special opportunity for giving to USC through the IRA charitable rollover will expire on Dec. 31, 2013. Potential donors age 70 or older who have given at least one gift to USC of any size in the past 10 years and have a minimum lifetime giving to USC of \$2,500 qualify.

Learn more by visiting [usc.edu/giftplanning](http://usc.edu/giftplanning)

## OVEREATING: Responses to food conditioning

Continued from Page 1

are cues to hunger (such as sight, smell and memories) that trigger reward associations — much like Pavlov’s dogs were trained to associate a ringing bell with food. This can cause feelings of loss of control over eating, lack of satiation and obsessive thoughts about food as responses to this conditioning.

“We’re wired to focus attention on the most salient stimuli, and food today is designed by food producers to achieve a remarkable salience,” Kessler explained. “Our behavior

in overeating and eating a poor diet becomes rewarding and self-sustaining. We’re living in a food carnival; what did we expect to happen?”

To combat this “programming,” Kessler recommended changing people’s perception. “We could demonize tobacco, as it isn’t necessary for living, but doing the same to food is the stuff of eating disorders,” he said. “This isn’t about regulations, laws and litigation, but changing how we perceive things like large portion sizes and fast food.”

# Calendar of Events

## Monday, Dec. 16

**Noon.** KSOM Research Seminar Series. “TRIMmunity: Regulators of Pathogen Restriction and Immune Responses,” Adolfo Garcia-Sastre, The Mount Sinai School of Medicine. Aresty Auditorium. Info: (323) 442-7732

## Tuesday, Dec. 17

**Noon.** Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC. “Implantable Microsystems,” Ellis Meng, USC. Broad CIRM Center Seminar Room. Info: (323) 442-8084

## Friday, Dec. 20

**8 a.m.** Department of Pathology and Laboratory Medicine Grand Rounds. “Il Bo – the Foundations of Modern Medicine are Set,” Stephen Geller, Cedars-Sinai. Norris Topping Tower, Conference Room 7409. Info: (323) 442-1180

## Monday, Jan. 13, 2014

**3 p.m.** Southern California Clinical and Translational Science Institute Career Development Seminar. “Mentoring Workshop for Mentees,” Emil Bogenmann, USC. Harkness Auditorium. Register at <http://tinyurl.com/kbhq8em>

## Wednesday, Jan. 15, 2014

**4:30 p.m.** KSOM Dean’s Distinguished Lecture Series. “A Conversation with David B. Agus, MD,” David Agus, USC. Mayer Auditorium. Register at [www.usc.edu/esvp](http://www.usc.edu/esvp) (code: Agus) Info: (323) 442-1900, [deanksom@med.usc.edu](mailto:deanksom@med.usc.edu)

**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 email to [hscwkly@usc.edu](mailto:hscwkly@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.

# Everything’s coming up roses at HSC

**(Right, Middle) DONATE LIFE** Scott Evans, PharmD, MHA, CEO of Keck Hospital of USC and USC Norris Cancer Hospital, presents a rose on behalf of the hospitals’ organ transplant team to Alan Cochran, vice president of quality systems for One Legacy, a transplant donor network serving Southern California. The rose, dedicated to the hospitals’ organ and tissue donors, will be placed on the Donate Life float in the 2014 Rose Parade. One Legacy presented an artist’s rendering of the float, titled, “Light Up the World,” to Evans, along with a certificate of appreciation for the hospitals’ participation.



Sara Reeve

**(Bottom) ROYAL VISIT** For the 18th year, the Pasadena Tournament of Roses Parade Royal Court visited the USC Norris Comprehensive Cancer Center on Dec. 5 to spread holiday cheer among day-hospital patients and meet with faculty physicians. Center, Christy Russell, MD, associate professor of clinical medicine at the Keck School of Medicine and director of the Harold E. and Henrietta C. Lee Breast Center at USC Norris Cancer Hospital, meets with the Rose court (from left): Jamie Kwong, Sarah Hansen, Katherine Lipp, Ana Acosta, Elyssia Widjaja, Elizabeth Woolf and Kayla Johnson-Granberry.



Sara Reeve



Jon Natick

## Call to Cure supports USC Norris through art auctions

Art is supporting science thanks to DreamWorks Animation. Once per month for the next year, DreamWorks artists are donating original

works for auction on eBay in support of Call to Cure, an organization supporting colorectal cancer research at USC.

Auctions will be promoted through the Call to Cure website ([www.calltocure.org](http://www.calltocure.org)) and through Twitter and Facebook. All proceeds of each auction will be given directly to the USC Norris Comprehensive Cancer Center.

The first auction took place in November; this month’s auction launched on Dec. 9, and will close on Dec. 16 at 6 p.m.

Nate Wragg, visual development artist at DreamWorks Animation, was invited to create an original piece for the December auction based on the theme, “What Makes You Happy.” Wragg gathered

his inspiration from a child’s imagination. “A child’s imagination is something that has always inspired me,” he said. “I love the way a child’s imagination can take any situation, any place and transform it into an amazing experience.”

Call to Cure founder and DreamWorks executive producer Nancy Bernstein and Call to Cure organizers hope this effort will reach beyond current supporters to animation and art fans around the world.

To view the December auction, visit <http://tinyurl.com/llf73a7>.

## In case of an emergency...

**Call the Emergency Information Phone: (213) 740-9233** The emergency telephone system can handle 1,400 simultaneous calls. It also has a backup system on the East Coast.

**Visit the USC Web: <http://emergency.usc.edu>** 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.

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This multimedia piece by visual development artist Nate Wragg is the subject of the December Call to Cure auction on eBay.