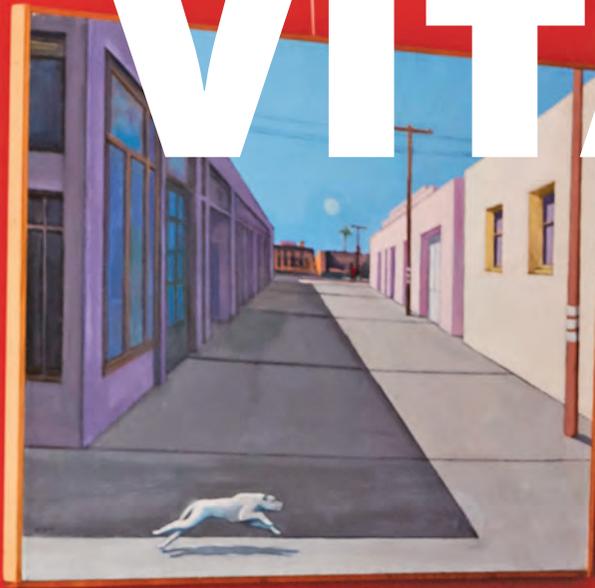


# VITALITY

USC LEONARD DAVIS SCHOOL OF GERONTOLOGY



14  
**Investing  
in Health**

Meet Mei-Lee Ney,  
the trailblazer behind the  
school's transformative  
\$20 million gift

VOL. 08

A Magazine for All Ages

FALL 2018

# DEAN'S MESSAGE

**“We’re bursting with people, ideas, results. Energy. The redesign of our spaces reflects the importance of building a better future for all ages.”**

**The USC Leonard Davis School of Gerontology is abuzz.** Literally. Construction crews are hard at work bracing, bolting, drilling and ducting as we reconfigure spaces, including the first major update of our lobby since our building doors opened nearly half a century ago. Soon, students, faculty, staff and visitors will be welcomed to a renovated entryway, along with new second-floor office suites and basement labs, all evidence of the exciting changes in our school — changes precipitated by the growing size and importance of our field.

We’re bursting with people, ideas, results. Energy.

The redesign of our spaces reflects the importance of building a better future for all ages. In this issue, you will read about our work in home modification, including our collaboration with The Hartford Center for Mature Market Excellence, our annual Morton Kesten Universal Design Competition and the way we’ve updated our HomeMods.org website to help people age safely at home for as long as possible. You will also read about George Shannon, a successful Hollywood actor who took on the new role of gerontology professor in his 60s.

On the research front, we’ve doubled our National Institutes of Health funding over the last six years. You will read about results from one of these projects: Professor Changhan David Lee’s findings about the mitochondrial genome open up new ways to understand aging and disease at the cellular level. As you may remember from your middle school biology class, mitochondria are a cell’s source of energy, which make them a fitting topic for this issue and this powerhouse period for our school.

The transformation in our school and in our field is best exemplified by the generous \$20 million gift — the largest in our school’s history — from our board of councilors member Mei-Lee Ney, to create the Ney Center for Healthspan Science. Her groundbreaking gift will allow us to find ways to improve health, wellness and longevity today and for generations to come, and it reflects the growing recognition that it is the quality of our years that matters most. Mei-Lee herself is the epitome of someone who lives life to its fullest, and I know you will be inspired by the stories she shares.

And that of course, is our goal with this magazine as a whole — to capture the energy coursing through this building and to connect it to all of you as we work together to spark solutions for living our best lives, no matter our age.



**Pinchas Cohen, Dean**



## VITALITY MAGAZINE

---

**Editor & CCO**  
Orli Belman

**Managing Editor**  
Natalie Avunjian

**Design**  
Golden Design  
Studio

**Contributors**  
Joanna Clay  
Emily Gersema  
Eric Lindberg  
Beth Newcomb  
Fiona Pestana  
Gary Polakovic  
Constance Sommer  
Zen Vuong

**Cover  
Photography**  
Amanda Friedman

**Associate Dean  
for Advancement**  
David Eshaghpour

**Senior  
Associate Dean**  
Maria L. Henke

**Vice Dean**  
Kelvin J. A. Davies

**Dean**  
Pinchas Cohen

# 3

### Postcard

Students explore ancient burial practices in Europe

# 4

### Findings

New studies take on dementia and distraction

# 7

### Commencement '18

Sending off the school's largest-ever graduating class

# 8

### Diversity in Aging

Accounting for diversity — and addressing disparities — at What's Hot in Aging 2018

# 12

### Vital Signs

Tips to delay brain aging

## FEATURED

---



# 14

### Investing in Health

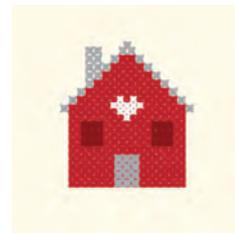
Financial advisor Mei-Lee Ney's \$20 million gift establishes the Ney Center for Healthspan Science



# 20

### Conducting Cells

Intracellular genetic messaging could lead to new approaches for treating diseases



# 24

### Home Safe Home

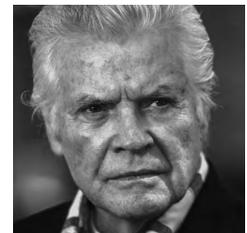
Universal design projects deliver improvements for independent living



# 30

### Caring for Caregivers

From practice to policy, students and faculty step up to help



# 36

### A Star Turn

Professor George Shannon became a gerontologist after a decades-long career as an actor

# NEWS BITES

## HONORS & AWARDS

### Faculty



**Jennifer Ailshire**  
*USC Graduate School  
Mentoring Award*



**Eileen Crimmins**  
*Matilda White Riley Distinguished Scholar Award,  
American Sociological  
Association Section on Aging  
& the Lifecourse*



**Caleb Finch**  
*Honorary Doctorate, École  
Pratique des Hautes Études,  
France*



**Cary Kreutzer**  
*Outstanding Dietetics Educator  
Award – West Coast Region,  
Academy of Nutrition and  
Dietetics*



## QUOTABLE

**“Limited job opportunities and poor economic prospects can leave less-educated individuals vulnerable to dying from drug overdose.”**

— **Jessica Ho**, winner of the Minnesota Population Center’s IPUMS Research Award for her investigation into drug overdose deaths and life expectancy differences between college graduates and those with less education.

## LAB SPOTLIGHT



### USC Leonard Davis School

Vice Dean Kelvin Davies, the James E. Birren Chair in Gerontology, has earned recognition at USC and around the world for his pioneering research in advancing our understanding of the processes related to age-related decline. He’s also a mentor to students in his lab as they work with him to seek solutions to improve lifespan health. Here are some of the honors recently received by Davies and his students:

### Kelvin Davies

*Officer, National Order of Merit, France*  
One of France’s highest honors, the National Order of Merit recognizes work that has societal significance beyond a recipient’s own field. Davies, along with Enrique Cadenas of the USC School of Pharmacy, was made a knight in 2012; both men were promoted to the rank of officer this year.

Also in 2018, Davies became a member of the USC Phi Kappa Phi Honor Society and a fellow of the Royal College of Physicians of Edinburgh and the Linnean Society of London.

### Sandhyarani (Sandhya) Gullapalli and Sarah Wong

*Second place  
Christina Sisliyan Honorable mention  
USC Provost’s 20th Annual Undergraduate  
Symposium for Scholarly and Creative Work,  
Life Sciences Categories*

### Christina Sisliyan and Kelsi Yu

*USG Academic Research fund awards to  
attend the 2018 SfrBM conference*

### Sarah Wong

*Young Investigator Award, Society for Redox  
Biology and Medicine*

### Christina Sisliyan and Sarah Wong and Kelsi Yu and Sandhyarani Gullapalli

*Best posters, 2018 UCLA Research Conference on Aging, Biological Sciences category*



## POSTCARD

### Of grave interest

**Centuries-old skeletons**, mummies, crypts and cemeteries were all on the itinerary as USC Leonard Davis students traveled across Italy and Germany for a course exploring how ancient burial practices inform modern-day approaches to life and death.

For Associate Professor Susan Enguídanos, these seemingly spooky relics are actually symbols of comfort, faith, tradition and hope.

“Seeing the care that societies take in honoring their dead shows us the importance of remembering, reinforces the continuity of life and connects us to cultures different from our own,” she said.

Attendee Erin Martin MASM ’17 found inspiration in the well-preserved remains of the Copper Age hunter known as Ötzi, the Iceman.

“He challenges our limited beliefs about aging. Anything is possible,” she said.

She also found more modern inspiration in the trip’s freshly prepared foods, walkable streets and afternoon siestas.

“My experience exposed me to a vast history of aging and to another world of living that broadened my perspective in a way that wouldn’t have been possible without my being there,” she said.

Learning from history and from others. That captures the spirit of this spirited trip. No bones about it. — *O.B.*

## GLOSSARY



**Healthspan**  
the period of a person’s life during which they are generally healthy and free from serious or chronic illness  
- *Macmillan Dictionary*



**Lifespan**  
(1) the average length of life of a kind of organism or of a material object especially in a particular environment or under specified circumstances  
(2) the duration of existence of an individual  
- *Merriam-Webster Dictionary*



**Longevity**  
a long individual life; great duration of individual life; the length or duration of life  
- *Dictionary.com*

# Number 1

College Choice names USC Leonard Davis School #1 gerontology program

## FINDINGS

### Education can hold off dementia

**Education gives people** an edge in their later years, helping them keep dementia at bay and their memories intact, a new USC-led study has found.

“This association between the increase in college attainment and the decline in dementia prevalence is good news for people who have completed some higher education or earned a degree,” said lead author Eileen

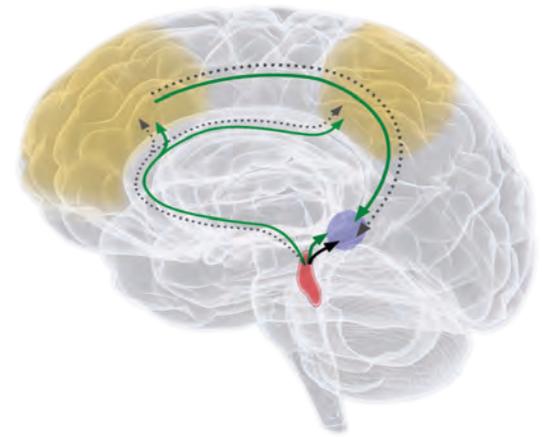
Crimmins, University Professor and AARP Professor of Gerontology at USC Leonard Davis. “But what does it mean for people who are less educated? They are more likely to develop dementia and live longer with it.”

Life expectancy with healthy cognition increased between 2000 and 2010 for people with more education. The lifespan with good cognition for men and women 65 and over who had graduated from college increased by an average of 1.51 years and 1.79 years, respectively. The increase in lifespan with good cognition was much smaller among those with the least education — 0.66 years for men and 0.27 years for women.

Healthy cognition characterized most of the people with at least a college education into their late 80s, the study found. People who did not complete high school had good cognition into their 70s.

The study used data on cognitive ability for Americans 65 years and older from the 2000 and 2010 Health and Retirement Study. — E.G.

“This association between the increase in college attainment and the decline in dementia prevalence is good news for people who have completed some higher education or earned a degree.”



### Why people become more prone to distraction with age

**Older adults appear more** easily distracted by irrelevant information than younger people when they experience stress or powerful emotions — and a specific network in the brain recently identified as the epicenter for Alzheimer’s and dementia may be to blame.

A USC-led study found that seniors’ attention shortfall is associated with the locus coeruleus, a tiny region of the brain-stem that helps focus brain activity during periods of stress or excitement.

Increased distractibility is a sign of cognitive aging, said senior author Mara Mather, an expert on memory and a USC Leonard Davis School professor. The study found that older adults are even more susceptible to distraction when under stress, indicating that the nucleus’s ability to intensify focus weakens over time.

For instance, an older adult taking a memory test in a clinician’s office may be trying hard to focus but will be more easily distracted by other thoughts or noises in the background, compared to a younger adult.

“Deciphering exactly how these changes in the brain occur as we age could one day help us uncover how to protect the brain from cognitive decline and loss of function,” Mather said. — B.N.



#### QUOTABLE

“Until now, we’ve had limited options for emojis reflecting older adults. ... The new emojis look a lot more like the baby boomers I see as I go about my day. I can’t wait to use them and to see them popping up on social media!”

— Jennifer Ailshire, assistant professor of gerontology and sociology, on the diversity of Apple’s soon-to-be-released gray-haired emojis.



#### COLLABORATION

### Age-Friendly USC

When Lysa Rohan enrolled at the USC Leonard Davis School, around three decades had passed since the returning student had taken a college course. Unlike her experience as a student in the 1980s, she now needed to be comfortable on a computer to sign up for classes, participate in courses and look up her grades. “The learning curve for me was incredibly steep,” she said.

Helping students like Rohan — along with tens of thousands of older USC alumni, staff, faculty and visitors — is one of the reasons that USC recently signed on as the first California university to join the Age-Friendly University (AFU) Global Network, an international group of higher education institutions addressing the needs of older adults.

“One of USC’s core purposes is to serve as a gateway to opportunity for people of various backgrounds, and that includes those at every stage of life,” said Michael Quick, provost and senior vice president for academic affairs.

Conducting healthy aging research is a key principle of the global network and one in which USC, thanks to the USC Leonard Davis School, has long been a leader. Faculty member Caroline Cicero is heading up a campus-wide working group to identify additional opportunities. One potential project: promoting age-friendly awareness through public service announcements.

As for Rohan, she got online — and up to speed — in no time. She earned a graduate certificate, launched a website for women 55 and over, and looks forward to being part of making life better for older adults, both on and off campus. — O.B.

# NEWS BITES



## RECENTLY PUBLISHED

**Caleb E. Finch**

*The Role of Global Air Pollution in Aging and Disease: Reading Smoke Signals*

**“What befouls the atmosphere in one part of the globe affects the health and economy of the rest of it.”**

## IN THE MEDIA

### The Washington Post

**Now more of us can count on more time dodging the dementia bullet**

An article on gains in “cognitive life expectancy” — how long older adults live with good versus declining brain health — cited research by Eileen Crimmins, including her recent finding that college graduates live more cognitively healthy lives. It also quoted Jennifer Ailshire on the limited relationship between personal happiness and cognitive decline. Happiness is often tied to an individual’s personality characteristics, noted Ailshire.

### The New York Times

**No luck finding the right nursing home? Maybe Yelp can help**

An article featured Enguídanos Lab research about nursing home consumers’ use of Yelp and the Nursing Home Compare website. “After 20 years and all the money spent to create it, it’s become a marketing tool. But most people don’t realize how little it measures. It’s garbage in and garbage out,” lead author Anna Rahman said of Nursing Home Compare.

### The Wall Street Journal

**The epidemic of loneliness — and how to combat it**

A commentary by Paul Irving tackled the growing public health problem of loneliness. “By recognizing the magnitude of the loneliness epidemic, confronting the realities and developing solutions, we can improve lives, communities and businesses,” Irving wrote.

### U.S. News & World Report

**Key heart risks decline for older Americans**

An article featured research by Eileen Crimmins that found the average number of cardiovascular risk factors has decreased among both men and women over the past 20 years. “We used to think men had a higher cardiovascular risk than women, but now we see everybody has gotten better. Cardiovascular risk has improved, and that’s a big plus,” Crimmins said. Since treatment has become more effective, Crimmins recommends lifestyle changes for older adults to reduce risk even more.

### Time

**What is intermittent fasting and is it actually good for you?**

A story noted Valter Longo’s findings that periodic diets that mimic fasting may extend life and reduce disease risks.

### NPR, Central California

**With an aging population, elder abuse is a growing concern**

Valley Public Radio interviewed Kathleen Wilber about California’s rapidly aging population and the resulting increase in potential elder abuse. Wilber says that in many cases, victims are either unable to report an abusive incident or choose not to, whether out of shame or to protect a family member.

### Forbes

**How universities drive innovation in aging**

An essay by Dean Pinchas Cohen explored how universities drive innovation in aging. “As we consider the drivers of the new longevity economy — what AARP describes as a powerful force of people, products and services that are changing the face of America — it is important to acknowledge the crucial roles that universities play in fostering this entrepreneurial enterprise that recognizes aging as an age of opportunity,” Cohen said.

## SOLUTIONS

### Answering the call

**USC Leonard Davis** students presented ideas for smartphone applications in an AARP-sponsored competition that challenged them to come up with ways to use digital technology to address the problem of social isolation.

Jennifer Lee MSG '18 won first place with CoLab, an application that allows older adults to post activity requests that students can then respond to and fulfill.

"Older adults actively want to keep learning, and with this app, students will be their teachers," said Lee, who included features like speech-to-text messaging to keep the app user-friendly for diverse ages and abilities.

Second-place awards went to student teams behind Community Connection and Community Match, both of which help older adults find social activities or services.

The contest was part of the school's continuing involvement in Purposeful Aging

Los Angeles, a multi-agency initiative to make the region more age-friendly. Laura Trejo, general manager of L.A.'s Department of Aging, and Dean Pinchas Cohen served as judges.

"I'm excited to see these inspiring ideas turn into solutions to help seniors," said Cohen.

— *F.P.*



## COMMENCEMENT



### 2018 sees school's largest graduating class

**On May 11**, more than 225 graduates received diplomas in a commencement ceremony that recognized the growth of the school, the increasing population of older adults and the rising importance of aging as an area of scholarship, research and professional opportunity.

"As evidenced by our representation in fields as diverse as health care and finance, our students, faculty and alumni are leading the way to a better future," said USC Leonard Davis School Dean Pinchas Cohen.

Keynote speaker Jeannine English, a fellow at the Stanford Distinguished Careers Institute and a national aging champion, called on graduates to design solutions that benefit all.

"You are the best equipped to lead this transformation," she said. "The key is to develop and implement programs and policies that assure a productive, secure and cohesive transition to an equitable aging society."

Student speaker Sarah Wong encouraged her fellow graduates to advocate for and appreciate others.

"Be grateful for the people who helped you ... have the opportunity that only so many can dream of," she said. "Thank you for an investment of a lifetime." — *O.B.*

**Lauren Brown**  
*Doctoral Student  
Award, USC PhD  
Achievement Award*

**Roberta Peterson**  
*Order of Arête*

**Elizabeth Rojas**  
*Order of Troy*

**Chae Sutherland**  
*Order of Troy*

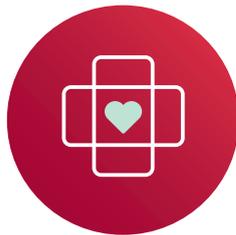
**Sarah Wong**  
*Order of Troy,  
Undergraduate  
Student Award*

**Ryan Ziltner**  
*Order of Troy*

## DIVERSITY IN AGING

**Experts addressed disparities** and aimed to close gaps in healthy aging at the 2018 What's Hot in Aging Research symposium at the USC Leonard Davis School in April.

Inequalities in lifespan, disease rates, health care access and more still persist between people of different races, genders, sexual orientation and socioeconomic status. Here's what our experts shared on the subject:



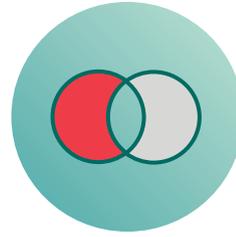
## Cultures and Condition Prevalence

“We know that there’s a lot of difference in the prevalence of conditions between different cultures. We see it with diabetes, asthma, hip fracture, hypertension and cancer, just to name a few.”

— **Susan Enguídanos**, associate professor and assistant dean for diversity and inclusion, USC Leonard Davis School

20%

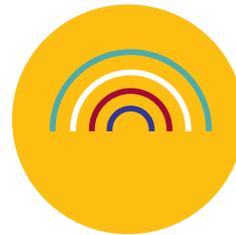
of African-Americans over 50 report completing an advance directive



## Ethnic Differences

“While 99.9 percent of the human genome is identical between people of different ethnicities, there are some subtle differences that are uniquely represented in specific ethnicities that represent an explanation for the frequency of diseases in certain ethnicities.”

— **Pinchas Cohen**, dean, USC Leonard Davis School



## LGBTQ+ Older Adults

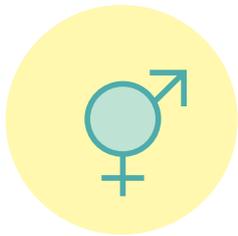
“Thirty-four percent of LGBT adults are concerned that they’ll have to hide their identity in order to access suitable housing as they age. Sixty percent are concerned about possible verbal or physical harassment in long-term care.”

— **Julie Bates**, lecturer, USC Leonard Davis School; associate state director, AARP California

**More than 80% of respondents said they’d like to find more long-term care services designed to be LGBT-friendly**

**88% said they’d like to find providers who have received training in LGBT concerns**

Source: AARP’s “Maintaining Dignity: a Survey of LGBT Adults Age 45-plus”



## Sex Differences

“There are sex differences not only in disease incidence rates between men and women but also differences in disease symptoms and in the age of disease onset.”

— **Todd Morgan**, research professor, USC Leonard Davis School



## Ethnicity and Advance Directives

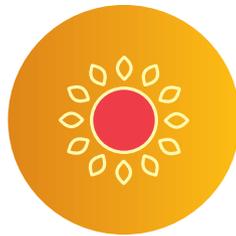
“Research shows that African-American and Hispanic people are less likely than whites to have completed an advance directive, even as completion rates have risen among minority groups. Beliefs about end-of-life care may play a role in why the gap persists. For instance, Hispanics frequently report not feeling the need to complete an advance directive because they assume family members will step up to make decisions.”

— **Catherine Pérez**, PhD in Gerontology candidate, USC Leonard Davis School

**1 in 5 African-Americans over 50 report completing an advance directive**

**About 1 in 3 Hispanics over 50 report completing an advance directive**

Source: University of Michigan’s 2000–2014 Health and Retirement Study



## Environmental Factors

“Older black households at the highest income level are still more likely to live in high-poverty neighborhoods than whites at the lowest income level. This is a legacy of redlining and race residential segregation that has endured over the life course. We really need to think about how we can create age-friendly and healthy spaces not just for older adults but for all older adults, including those who are more socially vulnerable due to these long-stretching processes of inequality.”

— **Jennifer Ailshire**, assistant professor, USC Leonard Davis School



## Resident Service Coordinators

Resident service coordinators — who bring services and support directly to older adults in U.S. Department of Housing and Urban Development (HUD)-assisted housing — promote safe and healthy home environments for low-income seniors of many different backgrounds.

“Service coordinators preserve independence and save money by reducing the need for older adults to move from their homes into assisted living or skilled nursing facilities.”

— **Tameka Brown MAG '12**, USC Leonard Davis School instructor and resident services supervisor for HumanGood

**88%**

of survey respondents said they'd like to find providers who have received LGBT training

**99.9%**

of the human genome is identical between people of different ethnicities

# NEWS BITES



## NEW DIRECTIONS

### — \$11 million grant supports research on air pollution and Alzheimer's

**A new National Institute on Aging** program grant awarded to USC researchers focuses on air pollution and Alzheimer's disease. The five-year grant will examine how urban air pollution contributes to accelerated brain aging and dementia risk. It will also identify gene, gender and age differences in terms of vulnerability to traffic-related air pollution.

The project brings together researchers from the USC Leonard Davis School, the Keck School of Medicine of USC, the USC Viterbi School of Engineering and the USC Dornsife College of Letters, Arts and Sciences, as well as collaborators from the University of California, San Diego; Wake Forest University School of Medicine; and the University of Washington. With their complementary

expertise in environmental health sciences, gerontology, neurology, psychology and the neurosciences, the research team will jointly study human populations and experimental models.

"We expect results to advance understanding of how traffic-related air pollution contributes to Alzheimer's risk and accelerates cognitive decline, and to provide a rationale for interventions that can prevent exposure to such neurotoxic agents in our environment," said University Professor Caleb Finch, holder of the ARCO-William F. Kieschnick Chair in the Neurobiology of Aging at the USC Leonard Davis School and co-principal investigator on the project.

### \$10 million grant supports research on fasting, cell regeneration and disease protection

**A \$10 million program** grant from the National Institute on Aging awarded to USC and Harvard University researchers focuses on dietary and pharmacological interventions that could protect against aging and diseases, in part by causing the regeneration of cells, systems and organs.

Principal investigator Valter Longo is the Edna M. Jones Professor of Gerontology at the USC Leonard Davis School, the director of the USC Longevity Institute and a renowned expert on the health effects of fasting and fasting-mimicking diets.

Co-investigators include USC Leonard Davis School Dean Pinchas Cohen and Research Professor Todd Morgan, as well as Harvard's James Mitchell. Together, the laboratories will study the molecular mechanisms linking fasting, fasting-mimicking diets and protein restriction of growth genes, the stress resistance signaling network, mitochondrial biology, cellular protection, regeneration and aging.

"These studies will contribute to the identification of drugs and interventions to treat and prevent multiple diseases by acting on the aging process and on multisystem regeneration and rejuvenation," Longo said.



## Navigage funds new projects

The **Navigage Foundation** has awarded \$500,000 in grants for aging research at the USC Leonard Davis School. Faculty members Mara Mather, Kelvin Yen and Valter Longo will each receive \$100,000 for research focused on heart rate variability and the effects on cognitive function, mitochondrial-derived peptides and their possible effects on healthspan, and the effects on healthspan of the longevity diet and nutrition, respectively. The grant's remaining \$200,000 will fund competitively selected projects at the school. Navigage is managed by DeWayne McMullin MAG '02.



## Junior faculty win grants for original research

**Assistant Professor** Bérénice Benayoun and Instructional Associate Professor Caroline Cicero received 2018 Hanson-Thorell Family Research Scholarships of \$25,000 each to support their innovative research. Benayoun will combine big data and functional analysis in the African turquoise killifish to help identify new pro-longevity drugs that could work in humans. Cicero will expand research and policy work around creating a more age-friendly Los Angeles.

"It is an incredible honor for our family to fill a niche that allows younger researchers to fulfill their potential while also furthering the study of gerontology," said Keith Thorell, who served on the selection committee with his wife, Kristin, and his parents, Board Chair Shari Thorell and her husband, Bob.

### FELLOWSHIPS

#### Lauren Brown

*NIA Postdoctoral Fellowship,  
University of Michigan*

Racial and ethnic differences in experiencing chronic stress among older adults

#### Ariana Chen

*USC URAP*

The mitochondrial genome and its implications as an anticancer agent

#### Stephen Frochen

*NIA Predoctoral Fellowship,  
Ruth L. Kirschstein NRSA*

A new eldercare land use ordinance in Los Angeles

#### Sara Gallant

*BrightFocus Fellowship*

The locus coeruleus's role in memory selectivity and how it may alter with aging and Alzheimer's disease

#### Kylie Meyer

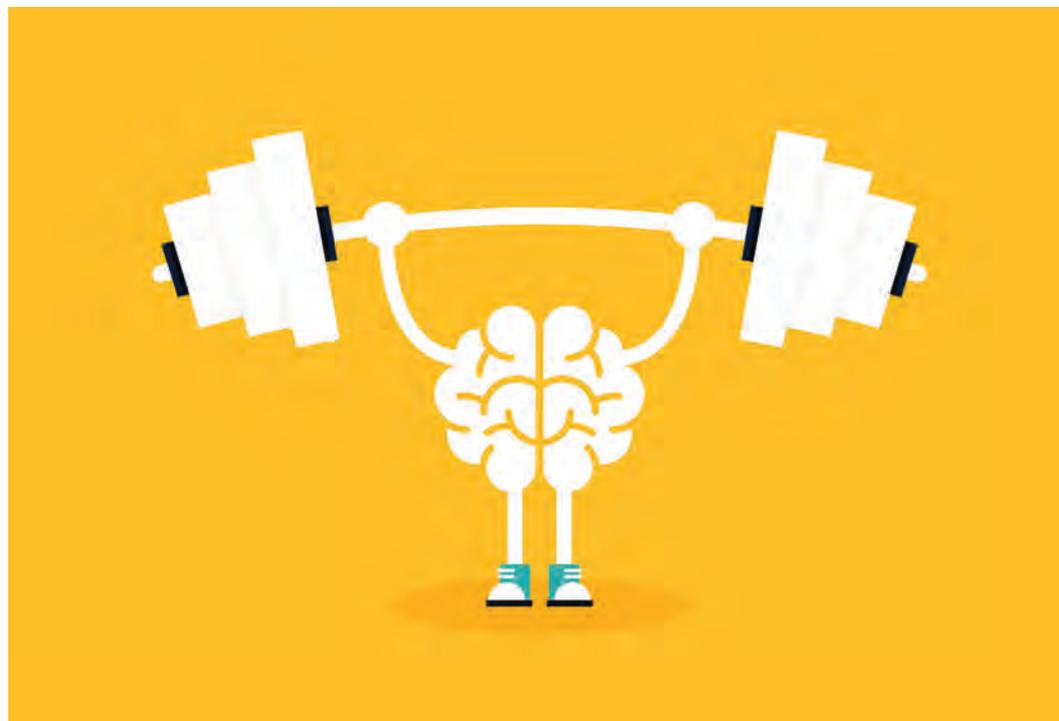
*USC Graduate School Final  
Year Fellowship*

Interventions to support family caregivers

#### Christina Sisliyan

*Rose Hills Foundation Summer  
Research Fellowship*

Adaptive homeostatic response and its potential dysfunction in Rett syndrome



## Three Tips to Help Delay Brain Aging

by Fiona Pestana

“A daily walk or other form of movement is good for your body and your brain.”

### EAT HEALTHY

Healthy eating can delay aging in the brain and body, according to Professor Valter Longo, author of the book *The Longevity Diet*. The Mediterranean diet — which includes plant-based foods such as nuts, legumes, fruits, vegetables and whole grains — is associated with reduced risks of heart disease, cancer, Parkinson’s disease and Alzheimer’s disease.

However, Longo suggests taking it one step further with his five-day fasting-mimicking diet. Add a low-protein pescatarian regimen and neuroprotective foods like olive oil, coffee and coconut oil to the Mediterranean diet for best results. Additionally, Longo advocates limiting red meat intake. “Fish such as salmon and sardines are high in omega-3 fatty acids — the good fats,” he says. “In contrast, the fat in red meat is not healthy for your heart or brain.”

Healthy eating activates the brain’s metabolic pathways and improves cognitive

function. It may, Longo says, even slow or prevent Alzheimer’s disease.

### ENGAGE WITH MUSIC

Music is a great brain workout, according to Alison Balbag, an instructional assistant professor who studies music’s influence on health and development across the lifespan. Music exercises many parts of the brain simultaneously, which may make your brain stronger and more resilient against neurodegenerative diseases, she says. According to Balbag, musicians have a reduced likelihood of developing dementia or cognitive impairment compared to nonmusicians.

Listening to music is also beneficial. She says music memory appears to be spared and preserved, even during dementia and severe cognitive decline: “When dementia patients hear music from earlier years, the music may help spark one’s memory and increase communication with family and

caregivers — and that can have a big impact on benefiting quality of life.”

### EXERCISE

“Incorporate movement into your day,” says Cary Kreutzer, associate professor and director of the school’s Master of Science in Nutrition, Healthspan and Longevity program.

“A daily walk or other form of movement is good for your body and your brain,” says Kreutzer. Moderate daily activity is a proven intervention that can reduce your risk for a variety of diseases, including heart disease, cancer, diabetes and Alzheimer’s disease.

Combine with healthy eating for best results. Kreutzer recommends eating bigger meals earlier: “Our bodies are more efficient at burning calories during the day when we are active, versus storing excess calories as fat at night while we sleep. Front-loading calories gives you time to digest all those calories well before bedtime, which can have benefits for weight loss and overall health,” says Kreutzer.

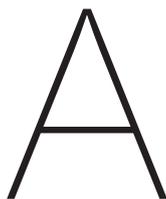
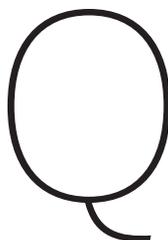
Additionally, Kreutzer advises saving some leftovers from your meal.

“Saving food for the next few days allows you to enjoy the meal multiple times and spares you from taking in too many calories at once,” says Kreutzer.

*Zen Vuong contributed to this article.*



View these tips on our Instagram  
[@uscleonarddavis](https://www.instagram.com/uscleonarddavis)



**Brendan Miller** is a neuroscience PhD student in the Cohen Lab. Miller, who recently earned a Young Investigator Award from Alzheimer’s Los Angeles (ALZLA), spoke to us about his research studying mitochondrial mutations in Alzheimer’s disease.

**Q: What are you hoping to discover?**

**A:** We know that mitochondrial dysfunction is one of the earliest hallmarks of Alzheimer’s, but it’s still unclear what is actually driving that dysfunction. I am hoping that we can find new mitochondrial gene mutations that are driving that dysfunction, and then we can take models that have that mutation and try to fix them.

**Q: How do you find these mutations?**

**A:** It’s a two-step process. First, we are doing big data studies to identify mutations, and then we bring it down to a molecular level — replicating those mutations in cells — to see what they’re actually doing, and trying to find the mechanism.

**Q: What is the most exciting aspect of this work?**

**A:** Most of the genetic studies that have been published have not looked at the mitochondrial DNA. There could be hundreds of really small mitochondrial genes that have been overlooked. We are looking at mutations in these small mitochondrial genes. It is exciting to see if we can look at this uncharted landscape, identify which small genes are important and eventually target treatments toward them.



# Investing in Health



**Introduction by**  
Eric Lindberg

**Photography by**  
Amanda Friedman

*A \$20 million gift from Mei-Lee Ney creates a new research center on longevity and aging at the USC Leonard Davis School. Her donation, establishing the Ney Center for Healthspan Science, is the largest in the school's 43-year history.*

**A longtime supporter of the USC Leonard Davis School**, Mei-Lee Ney is a member of its board of councilors and previously funded an endowed scholarship for USC gerontology students. In 2017, she was awarded the Dean's Medallion, the school's highest honor, in recognition of her contributions. Ney also serves as a board member of the USC Pacific Asia Museum. The Pasadena resident is president of Richard Ney & Associates Asset Management Inc., a firm she helped run with her business partner and late husband, Richard, since 1973. From 1976 to 1999, Ney helped produce *The Ney Report*, a popular investment newsletter. She also edited two of her husband's books on the stock market, *The Wall Street Gang* and *Making It in the Market*. Her other passions include community and arts organizations, and she is involved with Founders at the Music Center, Otis College of Art and Design, LA Opera, Caltech Associates, Huntington Hospital and Huntington Library.

By any measure, we think this Shanghai-born investment advisor and philanthropist is second to none. Meet her here with this in-her-own-words introduction.

## **Equal Treatment**

My great-grandfather was the governor of Yichang, China. My grandfather was a scholar and raised my mother as though she were a boy, tutoring her in math and literature until he sent her to high school. Education for women in those times in China was very unusual. She was far ahead of her classmates. After graduation, he told her, "The world is changing. Women must also learn a profession," and sent her to a business college. When the war with Japan broke out, she got a job in banking in Hong Kong. She was the only woman working at the bank. There was not even a ladies' restroom.



### Extending Support

In 1947, six months after I was born, my mother had an opportunity to visit her sister in the U.S. While she was in this country, my father wrote her and said, “Don’t come back. The Communists are invading. Try to get us out of here.” She got a job with the International Monetary Fund and worked there for a year and a half before she qualified to send for her family. Chinese weren’t allowed to immigrate at that time because of Communism, but we were able to leave because of the special NS-4 passport issued by the U.S. Senate for foreign workers and their families who were employed by international organizations such as the United Nations, the World Bank and the International Monetary Fund. Fortitude and hard work came naturally to me from my mother’s example. Loyalty to family was taken for granted. She supported her six siblings and their families in China for more than 30 years.

### A Single Mother

When we left China, we left everything behind. My father could not find a job and died from cancer at age 39, three years after we arrived. My mother had a good job, but we only had the bare necessities because she sent most of our money to support relatives in China. Money was always scarce. My father died when I was 5, so my mother had the greatest influence on me, but not in the way you might think. She was overwhelmed being a single mother with two daughters, running a household by herself, holding down a challenging full-time job and trying to acclimate herself to a new country, a new language and a new culture. Consequently, she did not pay that much attention to my sister and me. It suited me perfectly, because I was very independent and liked being left to my own devices. I spent a great deal of time reading and exploring my surroundings by myself.

### Giving Credit

I’m a very happy person today, and I credit much of that to my mother who (perhaps unwittingly) allowed me to make my own decisions. She gave me one very important lesson: When making choices, she told me to make a list of the positives and negatives and see which list was

longer, and also to evaluate which items on the list were the most important. Her father taught her the same thing. I’m also very practical, which I got from observing my mother.

### A Pair of Shoes

I grew up wearing my older sister’s hand-me-downs and was happy to receive used toys at Christmas from our church. I remember when I was 10, I asked my mother for a pair of patent leather pumps that girls my age were wearing to church. She said, “You can have anything you want, but we don’t have any money, so you have to earn it yourself.” That was the best advice she ever gave me. I started a little business and went around the neighborhood, knocking on doors to offer my services. I charged

10 cents to trim a bush, 50 cents to rake a lawn, \$1 to mow a lawn, \$2 to wash a car and \$5 to wax a car. In the next few years I also began to walk dogs and babysit and sold pot holders door-to-door that I had made at home. Although I did many chores at home, I never received an allowance, but I got to keep everything I earned and to spend it on whatever I wanted.

### Five Jobs

When I attended college, I earned my room and board and tuition by working during holidays and summer breaks. I always had several jobs. One summer in Washington, D.C., I had five. During the day I was a legal secretary, at night I worked at the Whiskey-a-Go-Go in Georgetown, and on weekends, I was a cashier at a drive-in movie theater, typed a manuscript for a woman writing her autobiography, and ran errands for a woman who was in a wheelchair. I feel very fortunate to have had this early training. I credit it with developing much of my character and determination and my ability to work hard, focus and delay gratification. It really set the tone for the rest of my life and any success that I’ve had.

### A \$225 Investment

I was a fast typist and earned money during college by working for temp agencies during school breaks. I was always observing what the bosses were doing at different

**“When I was 10, I asked my mother for a pair of patent leather pumps that girls my age were wearing to church. She said, “You can have anything you want, but we don’t have any money, so you have to earn it yourself.”**

From left: PhD student  
Brendan Miller, Mei-  
Lee Ney and Assistant  
Professor Chaghan  
David Lee



**“My husband primarily viewed himself as an educator. As the editor of his books and all his communications, my job was to make his theories understandable to our clients, subscribers and readers.”**

businesses to see if that was something I would want to do. I found the investment business after I was hired to type confirmations for a brokerage firm that was coming out with a new offering. There was no room in the secretarial pool, so a desk was set up for me with the brokers’ cubicles. As I typed, I could hear the brokers describing the new issue, a computer firm, in glowing terms and taking orders. The offering price was \$2.25 a share. The brokers were only letting their clients buy small amounts. I was typing confirmations for 25 and 50 shares as I listened to the brokers’ sales pitches. The stock sounded so tempting that I asked my mother if I could borrow \$225 until the next payday, and then went to the president of the brokerage firm and asked him if I could buy 100 shares. At first he was shocked, but then I think he was amused that some unknown temp would ask for more shares than favored customers were receiving. He finally sputtered, “OK. OK. I’ll let you buy 100 shares.” Two months later, the stock was at \$60 a share and I thought, “If money can be made so easily, this is the business for me!” I’ve learned a lot since then.

### **The Only Woman**

In my first firm as a broker, I was the only woman. In the last firm I was with before becoming an investment advisor, there were two women in my office. I’m sure the men looked at me askance, but I didn’t care. We started every month with a blank slate, and our monthly pay consisted entirely of the commissions we earned by selling stock. I was glad to have a job in which I could compete equally with them and do better than most.

### **A Dynamic Duo**

My husband [Richard Ney] was a very independent thinker and an intellectual. He was a voracious reader. Once he discovered how the markets operated and who controlled them, he researched the system, including the financial regulations, going back to the founding of the New York Stock Exchange. He was also a great humanitarian and a champion of the underdog. It was natural for him to want to share his knowledge and help the average investor. My husband primarily viewed himself as an educator. As the editor of his books and all his communications, my job was to make his theories understandable to our clients, subscribers and readers.

# Gift establishes Ney Center for Healthspan Science

**The Ney Center for Healthspan Science** will be a hub of multidisciplinary exploration into the biological, demographic and psychosocial aspects of aging. It will leverage the school's uniquely wide-ranging expertise in investigating the science of aging and implementing innovations to help people live with purpose, safety and security into their golden years.

"Mei-Lee Ney's generosity comes with a keen understanding that a society is measured by how it takes care of its most vulnerable members," said Michael Quick, USC provost and senior vice president for academic affairs. "Her gift ensures that the university, led by the USC Leonard Davis School, will be at the forefront of research and education that seek to improve how we live and age."

The center will build on USC's growing university-wide efforts to improve health and longevity

across the lifespan, a tenet of its most recent strategic plan. Tackling challenges related to extended life expectancy is a priority in the plan, which encourages researchers and scholars across the university to share their expertise and ideas on addressing aging-related issues as one of society's wicked problems.

The world's population is rapidly aging, with people age 65 and older soon expected to outnumber children younger than 5. That has significant implications for society. Stress on the health care system and on individual caregivers will continue to increase. Age-related diseases such as Alzheimer's and dementia, diabetes and cancer will likely affect a wider swath of the population. Issues like social isolation, caregiving, housing and work opportunities need to be addressed as older adults seek to remain vibrant and vital members of their communities.

"A pioneer in the financial indus-



From left: USC Leonard Davis School Dean Pinchas Cohen, Mei-Lee Ney and Cohen's wife, Wing Sze Cheung

try, Mei-Lee Ney has long understood the importance of investing in the future," said Pinchas Cohen, dean of the USC Leonard Davis School. "Her groundbreaking gift will allow us to find ways to improve health, wellness and longevity today and for generations to come."

Ney hopes to increase awareness of the many ways gerontologists can improve quality of life for people of all ages. "Bringing scientists and experts from disparate fields together to focus on healthy aging will allow USC researchers to embrace the challenges and opportunities of our aging society, both locally and on the world stage," she said. — *E.L.*

## Valuing Others

Fortunately, you don't have to be good in math to be in finance! At first, I was motivated by money and by receiving equal pay for equal work. I am now past retirement age, but I stay in it because I am concerned for the well-being of my clients. I work because it's one of the ways in which I give to others, which I enjoy.

## A Winning Formula

Learning new things and having new challenges and insights is one of the keys to my happiness. Engaging with people and having meaningful relationships is very important

to me. I recharge my batteries by being alone. Since aging is inevitable, I accept it, hopefully with grace. But at the same time, I want to go down fighting, so I exercise, eat well and maintain healthy habits in order to continue to feel as well as possible for as long as possible. I'm glad to have learned and evolved into a happier person over the years. A positive attitude is key. I hope others will appreciate the wisdom that can come with age and maintain their health and sense of fun and adventure. ♡

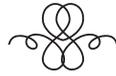
— As told to Orli Belman



# Stress Concerto

by MOTS-c





— *conducting* —

# CELLS

Scientists say the newly discovered
intracellular genetic messaging could lead to
new approaches for treating diseases.
by Gary Polakovic • Illustrations by Audreykim Design

**U**SC researchers have discovered that transfer of vital genetic information within a cell isn't the one-way telegraph once thought, opening new pathways for understanding human disease and developing potential treatments, a new study shows.

Research conducted by USC Leonard Davis School scientists is the first to show that the mitochondrial and nuclear genomes coevolved to independently cross-regulate each other. Understanding how intracellular DNA communication is hardwired into the cell will lead more researchers to appreciate the coordination of genes encoded in both genomes and their role in aging and disease, said Changhan David Lee, assistant professor of gerontology and senior author of the study.

The findings are significant because aging causes cells to break down, leading to diseases such as cancer and Alzheimer's. Understanding the cell's inner workings opens opportunities for medical advances that can help save lives. The study appeared in the journal *Cell Metabolism* in July.



M+DNA

MOTS-c

Nucleus

METABOLIC STRESS

**“[U]nderstanding how cells age means we have more insight into how the damage occurs and how we can prevent or fix it.”**

“Mitochondria have their own DNA that presumably comes from ancient bacteria that joined our cells a long time ago. We didn’t know that our mitochondrial DNA encoded messages to control the nucleus. In fact, the nucleus has been long thought to hold all our genetic blueprint for building and operating a cell,” Lee said. “This is a fundamental discovery that integrates our two genomes as a coevolved genetic system and may have a lasting impact for a broad range of scientific and medical fields.”

## **MITOCHONDRIA-BASED TREATMENTS**

Knowing intimately how cells operate could lead to greater understanding of age-related disease and, perhaps one day, to new mitochondria-based treatments. Prescription drugs today are designed based on the blueprint encoded in the nuclear genome, scientists say.

“We haven’t been looking at the full complexity of the cellular network,” Lee said. “If we’re fighting cancer, for example, with only half of our genome, then it’s half of a solution. Now we can fight these diseases with all our genetic components.”

The field of intracellular communication is relatively recent, emerging and only accelerating within the past decade. As medical equipment becomes more incisive, scientists can better detect small things, so even tiny genes inside a cell get more study.

## **THE NUCLEUS AND THE MITOCHONDRIA CARRY DNA**

USC researchers focused on the two parts of the cell that carry DNA: the nucleus and the mitochondria. Most genetic material resides in the nucleus, which is the largest component of the cell. Its DNA sends coded templates telling the cell what to do. Smaller

mitochondria function as energy-producing factories, turning food into fuel to power the cell. But size can be misleading. The mitochondria also contain DNA, all of it inherited from the mother — and as the new study shows — they are not just taking orders from the nucleus.

Working with human cells, the scientists discovered that when a cell is under stress and starved for nutrients, MOTS-c, a small protein encoded in the mitochondrial DNA, moves into the nucleus to control genes and turn on a defensive system, including an antioxidant response.

“Most diseases are due to aging, and aging leads to a breakdown in cell functions,” Lee said. “When things go wrong in the body, it’s because some mechanism in the body went wrong. So understanding how cells age means we have more insight into how the damage occurs and how we can prevent or fix it.”

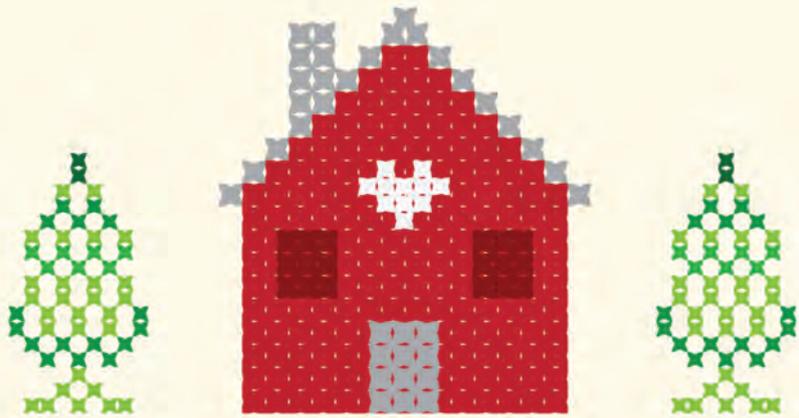
The USC Leonard Davis School is the locus for collaboration in basic and applied research in aging across the university. Researchers collaborate to solve aging challenges from diverse disciplines, including neurobiology, molecular biology, biodemography, cognitive psychology, sociology, urban planning and health services. They also focus on aging-related issues such as family studies, housing, long-term services and support, fall prevention, elder abuse prevention, caregiving and technology.

The study’s authors include lead researchers Lee, Kyung Hwa Kim, Jyung Mean Son and Bérénice Benayoun of the USC Leonard Davis School, USC Norris Comprehensive Cancer Center and USC Stem Cell Initiative. Lee is a consultant for, and a shareholder of, CohBar Inc., which is based in Menlo Park, Calif., and conducts research into and development of mitochondria-based therapeutics. 📍

HOLIDAY

SALE

HOLIDAY



By Constance Sommer  
Illustration by Natalie Avunjian



**Grab bars. No-skid bathtub strips.** Brighter lighting. Ramps instead of stairs. These aren't the items on a typical home improvement checklist. But for older adults, they can literally be lifesaving additions to a house.

Jodi Olshevski MSG '91 knows this better than most people. As executive director and gerontologist at The Hartford Center for Mature Market Excellence, she's spent her entire career thinking about how to enhance living for people as they age. About eight years ago, she and her team at The Hartford, a Connecticut-based insurance company, came up with a question: How could they encourage their home insurance customers to make design changes that could improve the comfort and convenience of their homes, enabling them to live there safely and independently even as their needs changed? Olshevski knew where she might launch a hunt for some answers — at her alma mater, USC's Leonard Davis School, where Professor Jon Pynoos, UPS Foundation Professor of Gerontology, Policy and Planning, was conducting cutting-edge research on how to improve housing for older adults.

Today, that academic-corporate collaboration has resulted in unique benefits for The

Hartford's customers related to universal design: the incorporation of products and building features that allow a space to be used by everyone, no matter their age, size or abilities.

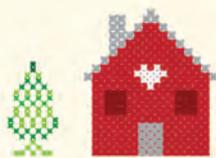
"Many of us associate this kind of design change with old age and frailty, and as a society, we haven't yet learned to embrace aging," Olshevski said. "So it's about changing the way we think."

One idea Americans do seem to have embraced: aging in place. A 2011 AARP report states that nearly 90 percent of older adults surveyed want to remain in their home for as long as possible, and 80 percent believe their current residence is where they will always live.

The Hartford is especially mindful of these numbers, as it is the exclusive national auto and home insurance provider for members of AARP. So, The Hartford Center for Mature Market Excellence began working on a study with Pynoos and his research team, asking: What would it take to get their customers to think differently about their homes? If they offered information about universal design at the time of an insurance claim for kitchen or bathroom damage, would customers be more likely to incorporate universal design features when having that damage repaired?

Indeed, 89 percent of study participants who completed a postclaim survey did make universal design modifications as they rebuilt their homes. The most common adoptions were glare-free lighting, easy-grasp knobs and handles on cabinets, and flat thresholds between rooms.

That spurred The Hartford's team of gerontologists into coming up with their own proposals for change. First, they helped to create and patent an optional homeowner's policy rider called The Hartford Replacement Plus Coverage. It reimburses homeowners for universal design upgrades to a kitchen or bathroom after a covered



**“[A]s a society, we haven’t yet learned to embrace aging. So it’s about changing the way we think.”**

insurance loss in the kitchen or bathroom. Customers can purchase coverage amounts ranging from \$1,000 to \$5,000.

The idea for a home insurance rider also reflects the ethos of the moment. Medicare Advantage Plans, which are administered by private insurers who are paid by Medicare, will soon begin offering coverage for some modifications.

The Hartford and USC research pointed out, though, that it wasn’t enough for homeowners to desire universal design improvements. Customers would also benefit from having access to a pool of contractors versed in doing such work.

“We found that a lot of our customers would love to have someone who knows something about universal design actually involved in the repairs they’re making after a claim,” Olshevski said. “That contractor is so critical in saying, ‘Here’s a really great idea: While you’re redoing that bathroom, why don’t you consider a comfort-level toilet, or a grab bar, or a walk-in shower?’”

So The Hartford partnered with USC, this time to design a customized home modification certification program for contracting professionals. The six-week-long training program can be done completely online. Contractors sign up for it through USC, and it’s administered by USC. It builds on an online executive certificate in home modification program that the university has administered since 2004. That one is designed for a wide range of students, from senior center staff members to contractors and occupational therapists, whereas the program created for The Hartford is solely for the network of housing contractors that The Hartford makes available to its customers after a claim. USC has been running the training program for the contractors in The Hartford’s contracted network twice a year since its inception in 2014. So far, about 120 contractors have received certification. “We’re ramping that up, because it’s so crit-

ical that contractors going into the homes of older adults are trained,” said Julie Overton, a learning and development specialist at the USC Leonard Davis School.

Finally, because The Hartford has a number of customers who fortunately never experience a claim, The Hartford used the information generated by USC researchers to create an online campaign to highlight the benefits of universal design and encourage those who may be remodeling their homes to incorporate such features. The site — [www.thehartford.com/remodel](http://www.thehartford.com/remodel) — cites a study by The Hartford-USC showing that while 40 percent of boomers planned to remodel their home sometime in the future, most cited the need to refresh “dated” rooms. Only 21 percent of the would-be remodelers had taken their own health and aging into consideration when making their plans.

But when shown photos of universal design features, many respondents warmed to the idea. In the kitchen, 75 percent of respondents said they would consider pull-out drawers in base cabinets and 59 percent were open to the idea of D- or U-shaped handles rather than knobs. For the bathroom, 56 percent said they would consider single-lever faucet handles, and 53 percent would consider adding grab bars in the shower and tub, according to the study.

Throughout all of this work, Pynoos and his team at USC have been essential partners, Olshevski said. “They’ve been with us every step of the way, helping to inform and shape ideas,” she said. “It’s a long-term effort. This kind of innovation doesn’t happen overnight. It takes a steady partner to stick with us and apply their expertise.”

Pynoos added that university/private sector partnerships such as The Hartford-USC collaboration are key to making changes in housing that will help older persons achieve their goal of aging in place. “Together, we have been able to take research and turn it into reality,” he said. ●

## In the business of caring

A college volunteer job may have changed the course of Jodi Olshevski's life.

The sociology major worked with older adults at a board and care facility near her school, Southern California College (now Vanguard University), in Costa Mesa. Over time, she grew especially close to one resident, named Kay. "She was very sharp, very with it," Olshevski said. Kay needed a walker to get around and could no longer drive. Olshevski became her chauffeur and companion for medical appointments.

One visit sticks in her memory. "The receptionist in that doctor's office, she acted as if Kay wasn't there, in the way she was talking about her instead of speaking directly to her," Olshevski recalled. "She wasn't treating her like a normal human being, simply because she was older and walking with a walker."

Spurred in part by the shock of that incident, as well as by her deepening relationships with Kay and other facility residents, Olshevski went on to pursue a master's degree in gerontology at the USC Leonard Davis School, graduating in 1991.

Olshevski found she enjoyed leading teams and programs and helping for-profit organizations better understand the needs of older adults. In 2000, she was hired as a corporate gerontologist by The Hartford, and she began leading their gerontology group 11 years ago.

Her USC degree, she said, equipped her to apply knowledge in a way that makes good business sense and is good for older adults.

Always, she tries to stay conscious of her mission, the one she traces to Kay and those days of driving to doctors' offices in 1980s Orange County. "You're trying," she said, "to work toward a society that views older adults as important." — C.S.



Jodi Olshevski, executive director and gerontologist at The Hartford Center for Mature Market Excellence

## Homemods.org makes a national impact

**Do you need a home modification** handyman in Harrisburg? Have you read the latest research on how to safely age in your house? Are you pondering how to pay for any changes you might make?

Reliable resources are just a click away, thanks to the recently revamped USC Leonard Davis School website [homemods.org](http://homemods.org). Don't just take our word for it. The Administration for Community Living (ACL), part of the U.S. Department of Health and Human Services, cites the site as a good starting place for home assessment checklists and links to it as a source for independent living information.

The team behind [homemods.org](http://homemods.org) also educates professionals around the country, speaking at AARP, Meals on Wheels and other conferences and providing training through USC's one-of-a-kind Executive Certificate in Home Modification. Along with the National Council on Aging, they lead the National Home Safety and Home Modification Work Group, a broad coalition which is currently supporting efforts to advance legislation, consumer education and financing mechanisms such as tax credits for making home modifications. — O.B.

**Visit [homemods.org](http://homemods.org) to see all that the site has to offer.**

## IN PRACTICE

# Students Redesign Everyday Items

By Beth Newcomb

The Morton Kesten Universal Design Competition recognizes extraordinary designs for products and spaces that make life easier for everyone, including older or disabled individuals. The annual competition is endowed by a family member in memory of the late Morton Kesten, an executive of Colonial Penn Insurance Company. Here are 2018's winners:



## esa

**By Emma Mantell**  
Kean University, NJ  
*Industrial Design Program*



A home's front door should feel welcoming and safe, and yet for many older adults, struggling with keys, the keyhole, and the doorknob are common issues faced on a daily basis. esa seeks to redefine the way we interact with the front door. The three-product ecosystem includes an innovative new take on the lock, keyring and handle. esa is designed as a versatile front-door solution, featuring Bluetooth as well as the conventional key lock, integrating the modern with the familiar.



## The Cinch Hamper

**By Emily Siira**  
Milwaukee Institute of Art & Design, WI  
*Industrial Design Program*



The Cinch hamper simplifies the laundry process, especially for individuals with limited mobility. Storing, transporting, folding, and hanging laundry are physically strenuous tasks that often involve lifting and bending. The Cinch hamper employs mechanical advantage to do the lifting and transporting of clothing for the user, while also providing a simplified system for clothes hanging. Clothing remains at waist height for unloading to/from the washer; wheeled transport with storage eliminates the need for a laundry basket.

Photos: (this page) esa courtesy of Emma Mantell; The Cinch Hamper courtesy of Emily Siira; (opposite page) Recolo courtesy of Arlenis Roberts; Petal courtesy of Quinn Edgecombe

To learn more about the competition, Universal Design, and this year's winners, visit [gero.usc.edu/udcompetition](http://gero.usc.edu/udcompetition)



## Recolo

**By Arlenis Roberts**  
Kean University, NJ  
*Industrial Design Program*



Recolo is an alert system that organizes medication times and doses and sends medication reminder alerts to each device paired to the tablet. It includes a tablet with magnetic sides that house accompanying pill bottles and a silicone-skinned wearable “notifier” with Bluetooth connection. The notifier vibrates and emits a light that corresponds to the color of the medication bottle when sending a reminder. The tablet’s home screen offers these options: medications, contact a specialist, adjust settings, and view health data.



## Petal

**By Quinn Edgecombe**  
University of Houston, TX  
*Industrial Design Program*



The loss of an extremity due to trauma can affect self-sufficiency. Petal’s goal is to empower unilateral upper limb amputees to confidently maintain their nail hygiene with the use of one hand. This design can support a diverse population of users, improving human performance, health, wellness and social involvement. Sticky gel pad technology allows Petal to be used on any surface and ensures stability when clipping nails. The wide, textured silicone, petal-shaped handle allows the user to easily press down to trim their nails.



*USC Leonard Davis  
student Christina Sisliyan  
with a Youthcare client*

# CARING FOR CAREGIVERS

*Students get hands-on experience with Alzheimer's and dementia patients — and give caregivers a break.*

*By Joanna Clay*

*Photograph by Samara Wittenberg*



Paul needs to remember to bring pie to Aunt Rose's party. "What's something that would help you remember this?" 18-year-old Charlotte Miller asks him. "What reminds you of your aunt and pie?" Paul is quiet for a bit. He thinks. Paul, 81, eventually comes up with a story — going grocery shopping with Aunt Rose and seeing a pie right when they walk in. Once a week, for a few hours, he practices memory games like these with Miller, a USC sophomore. They meet at a clinic in Downtown Los Angeles, a couple of blocks from L.A. Live.

**1 in 4**  
caregivers  
are millennials

**24%**  
of caregivers  
are women

**49**  
average  
caregiver age

**C**lient Paul works with Charlotte Miller, a USC Leonard Davis School sophomore, on some memory and brain exercises as part of a program called Youthcare, which recently partnered with the USC Leonard Davis School of Gerontology.

Founded by University of Redlands senior Nihal Satyadev, the social enterprise offers affordable respite care for unpaid caregivers who are caring for a family member or friend with early to mid-stage Alzheimer's disease or dementia. Student volunteers, who are trained in the UCLA Longevity Center's Brain Boot Camp memory program, work with the clients for a few hours each week. Besides doing memory exercises, they play games like Uno or Connect Four.

Paul, who comes up from Redondo Beach, told Miller he wants to keep up with his wife when they go shopping, but sometimes all the items and aisles confuse him. His stepson, Tim, who brings him to the clinic, said he doesn't know if Paul has demen-

tia — he hasn't been diagnosed — but he thinks it's great to keep his mind healthy.

USC students have been enthusiastic, Satyadev said, noting he had to close applications because he was getting so many. He's trained about 60 students since the partnership began in early 2018.

### REASONS FOR VOLUNTEERING

Some students, including Miller, were motivated to volunteer because of personal experience.

"It's all because of my grandpa," she said. "He had early onset when I was in seventh grade, and I watched it completely develop. ... I saw how Alzheimer's completely changes someone."

Not only is Alzheimer's hard on the estimated 5.7 million Americans living with it, but the disease takes a financial, mental and physical toll on the family members and friends caring for them. There are 16.1 million unpaid caregivers in the U.S. caring for



**4.5 million**

estimated number of  
family adult caregivers  
in California



**1 in 4**

caregivers  
assists a person  
with dementia

people with Alzheimer's or other dementias; of those, roughly 40 percent also have been diagnosed with depression, according to Satyadev's organization, The Youth Movement Against Alzheimer's.

Many family members sacrifice their jobs, retirement or health for caregiving, sometimes not taking a break for months or years. If they do want help, it can be costly — services can run as high as \$25 per hour, and Alzheimer's facilities can cost tens of thousands of dollars a year.

Satyadev, 23, came up with the idea for affordable respite care after seeing his own family struggle when his grandfather, a former police officer, declined due to the disease.

### LOOK AT THE NUMBERS

Then Satyadev looked at the numbers: Alzheimer's and other dementias currently cost the U.S. \$277 billion, an amount expected to jump to \$1.1 trillion by 2050.

Satyadev piloted the program at UCLA,

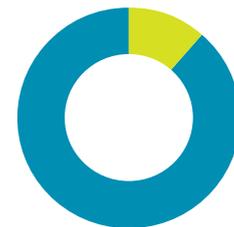


*Client Paul works with Charlotte Miller, a USC Leonard Davis sophomore studying lifespan health, on some memory and brain exercises at Youthcare.*



# \$58 billion

worth of care and assistance is provided by family caregivers in California each year



# 11.6%

of paid leave claims in California were taken by family caregivers from March 2017 to April 2018

**“Over the years, traditionally there have been 12 people to care for older adults. It’s now down to three people to care for older adults. Soon it will be down to one-to-one.”**

thanks to a grant, and said the results were positive.

“What we noticed was with just six hours a week, the overwhelming majority of caregivers said that’s all the break they needed,” Satyadev said.

Eight out of 10 said it also decreased stress.

Satyadev went to dozens of universities looking to partner — for help recruiting volunteers and getting the word out to caregivers — and USC was the first to say yes, he said.

“There are so many caregivers who don’t have a way to take a break and then, at the same time, we have students and younger generations who may be seeing caregiving and don’t know how to help out. Putting the two together just made a lot of sense,” said Donna Benton, director of the USC Family Caregiver Support Center and a research associate professor of gerontology.

Although Youthcare is small, Satyadev is hoping to expand. He’s supporting the

introduction of a bill to the state legislature to create a California care corps, similar to Americorps, pairing sponsored students with unpaid family caregivers. This would allow family members to re-enter the workforce, he said.

### **LESSONS OUTSIDE THE CLASSROOM**

Youthcare gives USC students experience they can’t get in class, Benton said.

“It’s invaluable to learn in this way,” Benton said. “They’re learning skills that they’ll need if they want to go into any of the health professions — they want to be OTs, PTs, doctors, nurses. They’re going to know what it’s like to care for a person with dementia.”

It also introduces USC students to a job market that’s going to explode in the coming years as the senior population booms and families shrink, Benton said.

“Over the years, traditionally there have been 12 people to care for older adults. It’s now down to three people to care for older



**80% +**

of caregivers indicate they need more information on caregiving-related topics



**15%**

of caregivers reported ever using respite services, despite reporting high interest

adults. Soon it will be down to one-to-one,” she said. “There’s already a shortage of care workers. It will be feeding into an automatic job market.”

Miller, who is studying lifespan health, plans to be a geriatric nurse practitioner.

“I think it definitely solidified my interest in the field,” she said. “I think it helped me realize I want to be hands-on with patients. That’s why I want to be a nurse practitioner, versus a doctor or surgeon.”

Connecting with Paul has become one of the highlights of her week.

“All my friends are like, ‘Did you see Paul today?’ and I’m like ‘Yeah, I did,’” she said. “He’s just so sweet.”

*All infographic statistics are excerpted from the California Task Force on Family Caregiving’s final report. Visit [tffc.usc.edu](http://tffc.usc.edu) to access the full report. ▼*



**4.3 X**

female caregivers who stopped working were 4.3 times more likely to experience poverty than noncaregivers who did so

## Promoting policies for change

**The California Task Force on Family Caregiving** recommended better services and supports for family caregivers as they presented their final report at a July hearing of the California State Assembly Committee on Aging and Long-Term Care at the USC Leonard Davis School.

“This report will help California begin to develop an action plan to help caregivers in the state today and to construct a better way to respond in the future,” said Donna Benton, USC Leonard Davis School research associate professor and chair of the 12-person task force.

Next steps will be to help advance specific legislative proposals based on the report recommendations, which include addressing limitations in paid family leave laws, improving caregiver training, and increasing access to affordable services.

“We want to continue to have California be an exemplar and to develop innovative ways of addressing caregiving needs, which are only going to increase with the aging of the population,” said Kate Wilber, Mary Pickford Foundation Professor of Gerontology at USC Leonard Davis and leader of the USC team administering the task force, which was funded by AARP California and Archstone Foundation.

The meeting was chaired by Assembly member Ash Kalra and attended by Assembly member Sydney Kamlager-Dove, along with task force experts, caregivers, financial planners, students and other stakeholders.

“Thank you for educating us. We are going to do more,” said Kalra. — O.B.



# A STAR TURN

BY JOANNA CLAY  
PHOTO BY GUS RUELAS

Take one of George Shannon's gerontology classes, and he might look a bit familiar — like a leading man from a 1980s soap opera. Or maybe it's the voice. You swear you've heard it in a Cadillac commercial.

That's because you did. Shannon, now 78, became a gerontologist at the age of 64, after a decades-long career as an actor, starring in shows like *General Hospital* and being the face of the Chevy Nova.

"The best teachers are born actors," said Shannon, a USC instructional associate professor since 2006. "They love being in front of a group. They learn their material, and they enjoy communicating."

## DRAWN TO GERONTOLOGY

Shannon went back to school, with only a high school diploma, at age 55. He was drawn to gerontology after taking a class on women and aging.

“I was appalled,” he said, after learning about aging women in poverty, many reeling from the gender pay gap or losing the sole breadwinner in their household. “I have four daughters. I thought, ‘This is something I can learn more about and contribute to.’”

With his family in mind, he got his bachelor’s degree and continued his education at the USC Leonard Davis School, completing his master’s degree and PhD in nine years. Now, Shannon is a distinguished professor at the school and has held the Kevin Xu Chair in Gerontology since 2016.

“People always ask me if it’s too late to go back to school, and I always say no,” Shannon said.

Education is valuable regardless of age; Shannon is living proof.

## NIGHT-AND-DAY DIFFERENCE

Attending school in his 50s was a night-and-day comparison to the last time he’d been in college. When he studied at the University of Illinois in his 20s, Shannon was married, with four kids, and juggling work and night classes.

“I was somewhat intimidated by the whole thing when I was young,” he said.

He dropped out to support the family, working as an elevator repairman in Chicago skyscrapers. On the way to a repair job, he got “discovered.”

“I was walking down Michigan Avenue with a toolbox in my hand, and a woman asked if I’d ever thought of doing print work,” he said.

She was an agent. All of a sudden, he had headshots and auditions for modeling and acting parts.

“I was like Superman,” he said. “I would change into a suit [in my car], go into an agency and audition or actually do a job.” Then he’d run back to his car to change back into his work clothes.



**“I would do a play in a minute. I just told my wife last night that I might grow a beard and play King Lear.”**

## NEW YORK TIMES: FURTHEST THING FROM TEACHING GERONTOLOGY

A couple of years into his newfound career, Shannon and his wife divorced. He decided to give acting a go full-time and moved to New York. There, he studied under Lee Strasberg, a teacher known for training the likes of Marilyn Monroe, Jane Fonda and Al Pacino. Acting lessons pushed his career even further, landing him gig after gig.

“I probably did 1,200 commercials,” he said. “I was the Tiparillo man. I just did every car [ad] imaginable — Ford, Lincoln, Chevy, Mercedes-Benz. For 10 years, I pretty much always had a commercial on air.”

He acted in about 50 plays, from *Hamlet* to *’Tis Pity She’s a Whore*. After taking on New York, he lived in Paris for a bit, starring in a surreal film called *I Will Walk Like a Crazy Horse*, a cult favorite in France.

After a few years, he moved to Los Angeles. He went on to star in several soap operas, including *The Young and the Restless* and *How to Survive a Marriage*, from the ’70s into the early ’90s. Most notably, he played Kinley on the renowned *General Hospital*. He also did a lot of voice-over work for automakers like Cadillac and Isuzu.



A headshot from Shannon’s soap star days

And, just like a Hollywood movie, he met his current wife here, locking eyes while shopping at a Sherman Oaks supermarket.

As he got into his 50s, Shannon's career was pretty steady, but he saw others struggle. However, fear of failure is not what pushed him to follow an educational path.

"I decided to go back to school — it wasn't because I was cracking," he said. "It hit me, and I don't know what it was. I just knew I needed to do something more meaningful than act."

And he's found that.

### NEXT ROLE: TEACHING GERONTOLOGY

"I've taught just about every class that there is in the last 10 years," he said, from sociology and aging to classes on social policy, economics and the moral dilemmas of caring for aging adults in society.

Additionally, he is the executive producer of *Motionless*, a documentary on paralysis featuring a voice-over from actress Helen Mirren.

### ACTOR AND GERONTOLOGY PROFESSOR

Shannon recently had the chance to combine his two passions, consulting on a Norman Lear TV pilot set at a Palm Springs retirement community. Lear wanted to make sure writers were accurate in their portrayal of a woman in the late stages of Alzheimer's disease.

"I was sitting right next to Norman while they were filming," he said. "It was wonderful being on set again."

And, as for acting, he's not opposed to getting onstage again — when he's not teaching, that is.

"I would do a play in a minute," he said. "I just told my wife last night that I might grow a beard and play King Lear." 🍷



Professor George Shannon on set with Norman Lear. Shannon served as an advisor for Lear's TV pilot *Guess Who Died*.

## Hollywood takes on aging

**USC Leonard Davis School** Professor George Shannon took part in a California Commission on Aging panel that brought experts together to strategize ways to improve the portrayals of older adults and the aging experience in film and on television.

The commission's initiative, "Hollywood Takes: On Aging," was launched March 1 in Los Angeles, with the goal of encouraging Hollywood decision-makers to represent older adults with more authentic, nonstereotypical storylines and characters to ensure they are part of the progress being made for diversity and equality.

"There is an epidemic of invisibility," cautioned Katherine Pieper, senior researcher with the USC Annenberg Inclusion Initiative, which studies the role of aging and older people in film and on TV.

Changing cultural bias is difficult to do, noted Kate Folb, director of Hollywood, Health & Society, a program of the USC Annenberg's Norman Lear Center, which provides entertainment industry professionals with accurate and timely information for storylines on complex cultural concerns, such as aging.

The move for "age-appropriate" representation makes sense both socially and economically. Arielle Burstein of the Milken Institute's Center for the Future of Aging cited research showing that as a group, "the over-50s control almost 80 percent of the aggregate net worth in the United States and are responsible for a disproportionate amount of consumer spending."

Shannon, along with former child actor and current aging advocate Paul Petersen, encouraged the entertainment industry simply to show the truth: Older adults are unique, interesting, experienced and productive.

# NOTES

## The Many Faces of Stan Lee

**Superheroes dominate** movie screens each summer. Look a little closer at your favorite blockbuster, and see if you can spot a real-life legend in the background. Comic book creator Stan Lee, now 95, has appeared in every Marvel movie release, from 1995's *The Trials of the Incredible Hulk* to



this year's *Ant Man and the Wasp*.

"Stan Lee's delightful cameo appearances add a human touch to these big-budget franchises, while also reminding us

that older adults remain relevant," said Instructional Associate Professor Caroline Cicero, an expert on aging and popular culture at USC Leonard Davis. Lee's popularity can also help shine a light on serious issues like the allegations of elder abuse and financial fraud that have played out in court and the media over the past year, she added.

"At age 95, Stan Lee is witty, active and in my experience, always kind. He's a true legend. A timeless artist," said USC School of Cinematic Arts alumnus Scott Derrickson, who cast Lee in his 2016 megahit *Doctor Strange*. "Stan Lee's creative legacy was long ago secured by becoming the imagination behind many of the most renowned comic book characters in American history. But with the unprecedented popularity of Marvel movies, he is perhaps the single most influential artist in pop culture history." —*F.P.*

Answers: *The Trials of the Incredible Hulk* - Jury foreman; *Ant-Man and the Wasp* - Shrunken man in car; *Iron Man 3* - Older mustached man; *Avengers: Infinity War* - Bus driver; *Teen Titans Go: To the Movies* - Beauty pageant judge; *Deadpool* - DJ at a club

... MATCH STAN LEE TO HIS CAMEOS ...

- The Trials of the Incredible Hulk*: Jury foreman
- Deadpool*: DJ at a club
- Ant-Man and the Wasp*: Shrunken man in car
- Iron Man 3*: Older mustached man
- Fantastic Four*: Mailman Willie Lumpkin
- Teen Titans Go: To the Movies*: Beauty pageant judge
- Avengers: Infinity War*: Bus driver

## Vintage All Female Car Rally Raises Money for Alzheimer's

Since 2011, Merle Mullin and her fellow It's All About the Girls! co-chairs have organized all female car rallies to raise money for charity. This year the USC Leonard Davis School of Gerontology was selected as one of the two beneficiary charities. "When I learned that three out of four Alzheimer's disease patients are female, I knew that this would be a great cause to champion," said Mullin.

Proceeds from the road rally were designated to support Alzheimer's disease research efforts in the laboratories of Caleb Finch and Christian Pike. Approximately 60 women drove 25 vintage cars around Provence, France to benefit the Leonard Davis School. Professors Finch and Pike are very grateful to Merle Mullin and her racing friends for the over \$70,000 donated by It's All About the Girls!.



Merle Mullin, It's All About the Girls! Rally co-founder and co-chair and Pebble Beach Concours d'Elegance Chairman Sandra Button in period dress with Merle's 1928 Bugatti T43

### VIBRANT LIVING RETREAT

March 22-24, 2019

**Register now** for the 2019 Vibrant Living Retreat  
Ojai Valley Inn, Ojai, California  
\$2,795 (single rate) | \$3,295 (double rate) | *Space is limited*

Call (213) 740-6493 to secure your reservation  
Learn more at [gero.usc.edu/vibrantliving](http://gero.usc.edu/vibrantliving)

---

# HOME STRETCH

“Just out here trying to make the world a happy  
and healthier place.”

— **Carley Horan MSNHL '18**, on USC Leonard Davis  
School Commencement Day, May 11, 2018



Photo: courtesy of Mark Horan



# What Will Your Trojan Legacy Be?

Charles A. Isham BA '65, MBA '72 had a strong desire to help USC. But he also wanted to secure his retirement. By making a gift through a charitable gift annuity to endow a scholarship fund for undergraduates studying economics at the USC Dornsife College of Letters, Arts and Sciences, he's receiving significant tax advantages and income for the rest of his life.

To create your Trojan legacy, contact the USC Office of Gift Planning at (213) 740-2682 or [giftplanning@usc.edu](mailto:giftplanning@usc.edu) and visit us online at [www.usc.edu/giftplanning](http://www.usc.edu/giftplanning).

**"I worked hard all of my life and I'm proud my legacy will support USC students."**

**CHARLES A. ISHAM BA '65, MBA '72**

THE CAMPAIGN *for the*  
University of Southern California

FAS REGNA TROJAE

# USC Leonard Davis

School of Gerontology

3715 McClintock Avenue  
Los Angeles, CA 90089  
[gero.usc.edu](http://gero.usc.edu)

Nonprofit Org.  
U.S. Postage

**PAID**

University of  
Southern California

**NOV 1, 2018**

## Kesten Memorial Lecture

USC Leonard Davis School of Gerontology

---

Vincent Mor, PhD, Professor of Health Services, Policy and Practice at Brown University, will present his lecture "From Clinical Assessments to Population Data: From Vision to Reality."

**NOV 3, 2018**

## 18th Annual C.A.L.M. Conference

---

Calling all caregivers: Join the USC Family Caregiver Support Center for a day of relaxation, education, lunch, raffles and much more! Register at [fcscgero.org/18th-annual-calm-conference](http://fcscgero.org/18th-annual-calm-conference)

**NOV 9-10, 2018**

## USC Longevity Institute's Fasting Conference and Summit

---

Want to learn the latest in research on fasting, fasting-mimicking diets and dietary restriction as these relate to longevity and diseases? Attend this academic conference or open-to-the-public summit. Visit [gero.usc.edu/fast-ing-conference](http://gero.usc.edu/fast-ing-conference) and [gero.usc.edu/fast-ing-summit](http://gero.usc.edu/fast-ing-summit)

**NOV 16, 2018 9:00PM - 12:00AM**

## USC Leonard Davis School Reception at GSA 2018

Kings Diamond & Entertainment, Boston, MA

---

Headed to GSA? Join other USC Leonard Davis School alumni, faculty and students for our annual reception.

**FEB 22-23, 2019**

## Senior Living Executive Course

USC Leonard Davis School of Gerontology

---

SLEC provides aging services professionals a collaborative educational experience in strategy development, leadership and the science of aging. Learn more and register at [gero.usc.edu/slec](http://gero.usc.edu/slec)

**MAR 22-24, 2019**

## Vibrant Living Retreat 2019

Ojai Valley Inn

---

Come hear about and discuss the newest developments in science, technology, nutrition, disease prevention and longevity to help us live longer, more fulfilled and healthier lives. Learn more at [gero.usc.edu/vibrantliving](http://gero.usc.edu/vibrantliving), and register by calling (213) 740-6493