

# HEARTBREAK. AND HOPE

As countless couples cope with miscarriage, researchers are working to better understand the underlying causes.



A publication of  
UCLA Health and  
David Geffen School of Medicine at UCLA

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Photo: UCLA Health

## Forever Linked

It is our mission to care for patients when others are unable, so when the family of a young woman in desperate need reached out for help, UCLA Health responded with the expert and compassionate care that is at the core of everything we do.

**I receive three or four emails or phone calls a week that begin, “You don’t know me, but I need your help.”** One such email came to me in December 2016 from a family friend of a young woman in Texas, whose story you will read in this issue of *U Magazine* (“The Littlest Wookiee,” page 22).

At the time, Kathlyn Chassey — who has given her permission to use her name and tell her story — was 24 years old and hospitalized in the final stages of her lifelong struggle with cystic fibrosis. Her family and friends had sent out desperate pleas, looking for a hospital that would accept her for a potentially lifesaving lung transplant. One after another, every center deemed her condition too precarious and turned her down.

I immediately contacted Dr. Abbas Ardehali, the surgical director of our Heart, Lung, and Heart-Lung Transplant Program, and within hours, he and his team were reaching out to Kathlyn’s family for more information. Less than a week later, she and her mother and father, who is a chief master sergeant in the U.S. Air Force, were on a specially equipped C-130 military transport plane en route to Los Angeles for further evaluation at UCLA. Kathlyn was listed for a lung transplant and had her surgery, and just a few weeks later, she left UCLA with a pair of healthy lungs.

Isn’t this our moral obligation to, whenever possible, provide the highly specialized care that others cannot? Compassion and service, caring for individuals and for populations, are at the core of everything we do.

Why am I telling you about this now, more than two years after Kathlyn had her lung transplant? Because, on November 26, 2018, I had the pleasure of celebrating again with Kathlyn. I was at Caltech, in Pasadena, and Kathlyn and her family were at their home in San Antonio as we watched

a live stream of Mission Control and the arrival of NASA’s InSight Mars Lander on the surface of the Red Planet.

It was an electric moment, and it was a special event for UCLA. Jerry Stoces, the family friend who reached out to UCLA, had, as a thank-you, arranged that the names of Ronald Reagan UCLA Medical Center, Dr. Ardehali, pulmonary critical care specialist Dr. David M. Sayah and me be inscribed on a small disc that was affixed to the lander’s deck. Also etched on the disc were the names of Kathlyn and her parents Chris and Julieann. There we are, linked together for all eternity, 300 million miles from home.

The weekend after that, Kathlyn returned to Westwood for UCLA’s annual Heart and Lung Transplant Holiday Party. She spoke to the 400 attendees and told them, “The greatest thing [since her transplant] is that I get to spend more time with my family and my friends ... and there is hope that I can live to be an old grandma. Life is not measured by the number of breaths we take,” she concluded, quoting Maya Angelou, “but by the moments that take our breath away. This is so amazing.”

Amazing, indeed. That we were able to step in to help when others could not, and now this young woman has a real future to look forward to — I am grateful to our expert care teams for their compassion and dedication and to Kathlyn and her family and her friends for having given us the opportunity to be of service.

**John C. Mazziotta, MD (RES '81, FEL '83), PhD**

Vice Chancellor, UCLA Health Sciences  
CEO, UCLA Health

## UCLA Team Helps Create Facility for Ugandan Women Who Suffer Childbirth Injuries



A woman who underwent treatment at the Centre for Gynecologic and Fistula Care at Mbarara Hospital in western Uganda.

Imagine experiencing obstructed labor while giving birth in a remote African village with no medical help available. Chances are the baby will die and the woman will suffer an obstetric fistula, a tear between the bladder and rectum that results in constant leakage of urine and sometimes stool. Left untreated, the woman faces a lifetime of social ostracization.

Fistulas are rare in developed nations, where cesarean sections are available. But the World Health Organization estimates that in the East African country of Uganda, about 200,000 women are living with fistulas,

and that about 2,000 new cases occur annually. But with the help of a team from UCLA Health, the new Centre for Gynecologic and Fistula Care at Mbarara Hospital in western Uganda recently opened to expand the capacity to treat this debilitating childbirth injury.

The 50-bed facility has been a long-term goal of supporters since 2009. Under the umbrella of the nonprofit organization Medicine for Humanity, Christopher Tarnay, MD (RES '98, FEL '00), chief of female pelvic medicine and reconstructive surgery, and a team of UCLA doctors, nurses and medical students have been traveling to Mbarara Hospital annually for two-week surgical trips to treat up to 50 women each time.



**Top:** Surgical training remains a major focus for the UCLA team in Uganda, as Dr. Christopher Tarnay reviews concepts. **Bottom Left:** Ugandan surgeon Dr. Musa Kayondo and Dr. Tarnay, president of Medicine for Humanity, which assisted with the opening of the fistula care center. **Bottom Center:** UCLA team members with Ugandan obstetrics and gynecology residents during fistula training program. **Bottom Right:** Dr. Tarnay with his wife LanAnh Do, MD '96 (RES '04, FEL '00), during the opening of the new center.

Photos: Molly Marler

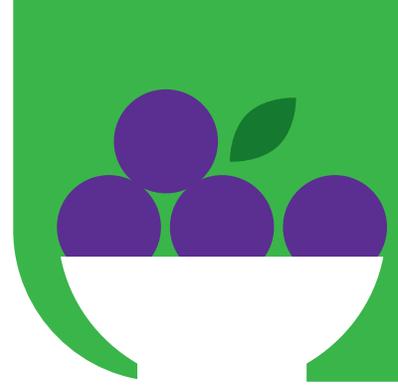
During those trips, the UCLA team trained local doctors, so that more women can be treated year-round. The new ward is the next step in helping create a sustainable program.

“These patients just want to be able to wake up with a dry bed,” Dr. Tarnay says. “By offering our expertise, training local doctors and now helping our Ugandan colleagues create the beautiful new space, we’ve been able to build a true center of excellence.”

The center will serve as a care and recovery facility for women undergoing surgery to repair fistulas and allow them to convalesce in comfort and privacy. The existing ward had only six beds and was not

big enough to handle the number of patients, some of whom had been sleeping on floors and in corridors.

Medicine for Humanity raised more than \$100,000 to build the new center and helped oversee the design and construction. Dr. Tarnay was overwhelmed when he saw the new building in person. “To see the center completed, when just two years ago it was only a hope, was quite miraculous,” he says. “I got a bit emotional when I went over early to see it before the ribbon-cutting ceremony. I was with my wife and our foundation executive director, and we just stood in shock at what we helped build.”



# Aggressive Prostate and Lung Cancers Are Driven by Common Mechanisms

UCLA researchers have discovered a common process in the development of late-stage, small cell cancers of the prostate and lung. These shared molecular mechanisms could lead to the development of drugs to treat not just prostate and lung cancers, but also small cell cancers of almost any organ.

The key finding: Prostate and lung cells have very different patterns of gene expression when they are healthy but have almost identical patterns when they transform into small cell cancers. The research suggests that different types of small cell tumors evolve similarly, even when they come from different organs.

Cancers that become resistant to treatment often develop into small cell cancers — also known as small cell neuroendocrine

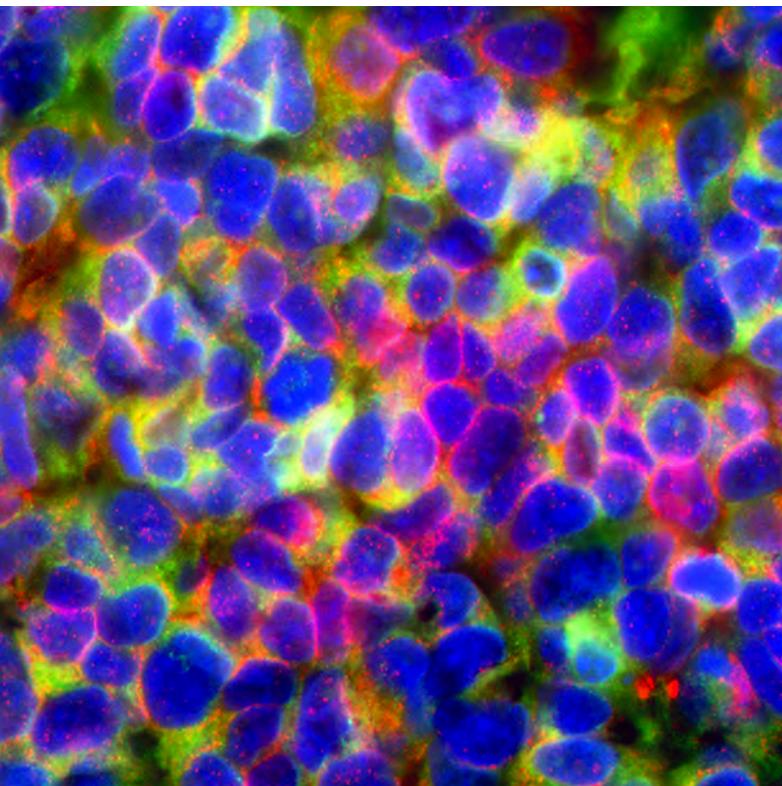
carcinomas, or SCNCs — which generally have extremely poor prognoses. Certain cancers can evade treatment in part by changing cell types — from aggressive adenocarcinoma to small cell carcinoma, for example.

Previous research hinted that small cell cancers from different organs may be driven by common mechanisms, but the UCLA study is the first to clearly describe the steps in their evolution. “Small cell cancers of the lung, prostate, bladder and other tissues were long thought to be similar in name alone, and they were treated by oncologists as different entities,” says Owen Witte, MD, founding director of the UCLA Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research and professor of microbiology, immunology and molecular genetics. “Over the past few years, though, researchers have increasingly begun to realize that there are similarities in the cancers, and that’s what our work confirms.”

Jung Wook Park, PhD, the study’s first author, and UCLA collaborators explored the potential parallels between the cancer types by transplanting human prostate cells with five genes, known collectively as PARCB, into mice. When those cells grew in the mice, they displayed unique features of human SCNCs.

The team also identified that for SCNCs to develop in the prostate, two tumor suppressor genes, TP53 and RB1, which are known for protecting normal cells from transforming into cancer cells, had to be simultaneously inactivated when PARCB was introduced. Additional tests confirmed striking similarities between the PARCB-SCNCs cells and small cell prostate cancer cells from humans. In particular, RNA expression and the turning on and off of certain genes were nearly identical.

The team also looked at large databases of gene expression to compare the patterns of gene expression in their PARCB-SCNC cells to cancers of other organs. They found that the pattern of gene expression in PARCB-SCNC cells was extremely similar to those of prostate and lung small cell cancers. Next, they tested whether PARCB genes could alter healthy cells from human lungs into small cell lung cancers, and the scientists found that they could. The team now is working on mapping which genes control the entire cascade of events that underlies the transition to small cell cancer.



A microscopic image of small cell neuroendocrine prostate cancer, with cancer cells expressing diagnostic prostate cancer markers in green and red. Blue areas indicate cell nuclei.

Photo: Courtesy of Drs. Jung Wook Park and Owen Witte

 “Reprogramming Normal Human Epithelial Tissues to a Common, Lethal Neuroendocrine Cancer Lineage,” *Science*, October 5, 2018

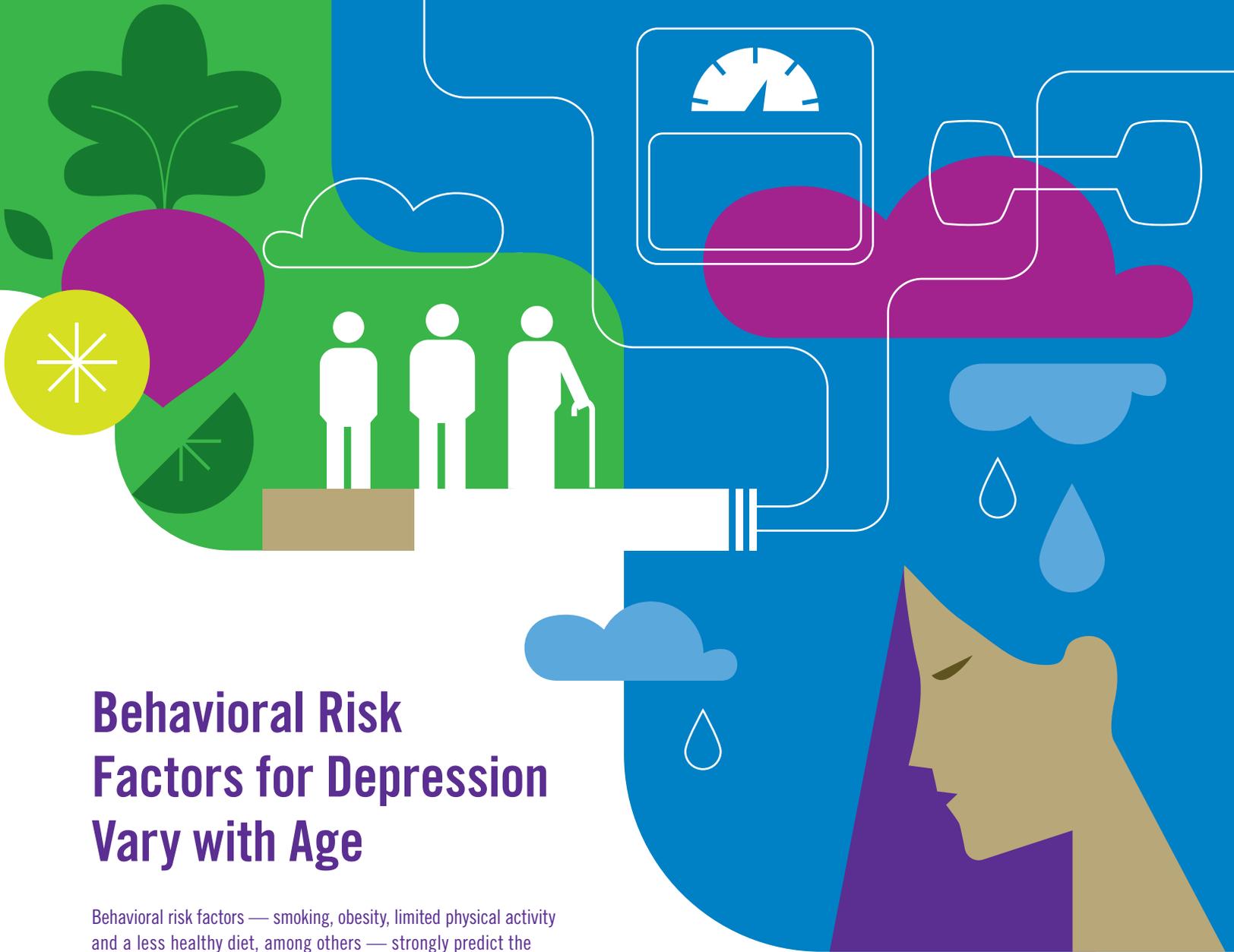


Illustration: Maja Moden

## Behavioral Risk Factors for Depression Vary with Age

Behavioral risk factors — smoking, obesity, limited physical activity and a less healthy diet, among others — strongly predict the likelihood of depression, UCLA researchers have found. That likelihood increases with each additional risk factor a person possesses, and the risk factors most strongly linked to depression change with age.

Previous studies had identified behavioral risk factors for depression, but it was unclear how these variables changed across the lifespan. This study sought to identify how the risk factors varied among three age groups: younger (18-to-39 years old), middle-aged (40 to 59) and older (60 to 99) adults.

The researchers collected data from more than 30,000 survey respondents, who answered questions about their lifestyle, including smoking, weight, physical activity and diet, as well as their history of depression. The team looked for correlations between the risk factors and depression, controlling for variables such as gender, ethnicity and socioeconomic status.

Sixteen percent of all participants had a prior diagnosis of depression. Smoking was most strongly associated with depression, especially in younger people: Younger smokers had 2.7 times greater odds of having had depression, while middle-aged and older smokers had 1.8 times the odds, compared to nonsmokers of the corresponding age.

Obesity was the next most important risk factor: younger, middle-aged and older obese respondents had 65 percent, 54 percent and 67

percent greater likelihood of depression, respectively, compared to non-obese counterparts. Participants who had little physical activity were more likely to have depression as they grew older. And a less healthy diet was linked to depression in the middle-aged and older groups only.

Compared to having no risk factors, having one risk factor increased the odds of having had depression (1.7 times). When a person had two risk factors, the odds of developing depression more than doubled. Having three risk factors increased the odds of developing depression by more than threefold, and a person with all four risk factors had almost six times the likelihood of depression.

The study is the largest yet to examine the behavioral risk factors for depression across age groups. Given the psychological, social and economic toll of depression, as well as its growing prevalence, predicting a person's risk at any age is critical, as are age-specific prevention programs, according to the authors. They said further research about nuanced risk factors, including gender and ethnicity, are warranted.

 "Behavioral Risk Factors for Self-reported Depression across the Lifespan," *Mental Health & Prevention*, September 21, 2018

# UCLA Scientists Use Stem Cells to Study Genetics of Germ Cell Tumors

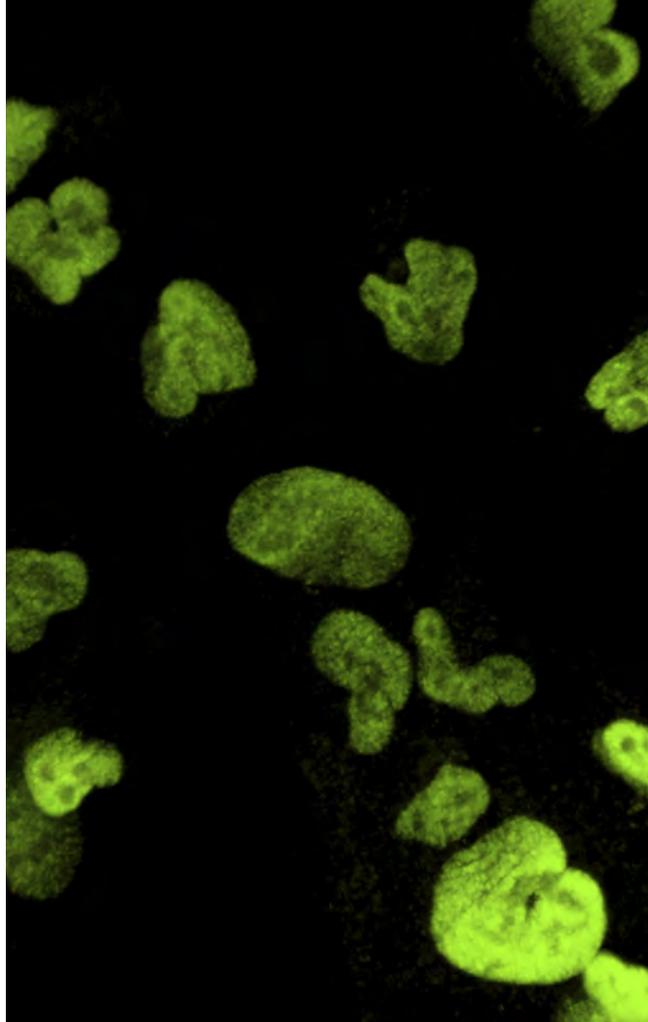
UCLA researchers have made new inroads into understanding germ cell tumors, a diverse and rare group of cancers that begin in germ cells — the cells that develop into sperm and eggs. The researchers developed a protocol to recreate germ cell tumor cells from stem cells and used the new model to study the genetics of the cancers. Their findings could point the way toward new drugs to treat germ cell tumors, which account for around 3 percent of all cases of childhood and adolescent cancers.

Germ cell tumors most often develop during embryonic development, in the testes and ovaries, but they also can occur in the spine, chest and brain when germ cells mistakenly migrate there. There are five subtypes of germ cell tumors: germinomas, embryonal carcinomas, yolk sac tumors, choriocarcinomas and teratomas. Each has its own unique properties, but most affect young children, adolescents and young adults.

“What makes this cancer really hard to study is that we think the disease begins in the womb and remains latent until after birth or during young adulthood,” says Amander Clark, PhD, chair of the Department of Molecular, Cell and Developmental Biology and a member of the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA. “That means we can’t easily isolate or study the very earliest stages of the disease in patients.”

Dr. Clark teamed up with pediatric cancer specialist Joanna Gell, MD (FEL ’16), who had become interested in germ cell tumors during her fellowship, while helping to care for a teenage girl with a hard-to-treat case. “The treatments we have are relatively effective in curing germ cell tumors, but they come with a whole host of serious side effects,” Dr. Gell says. For example, young adults treated with chemotherapy drugs could experience side effects such as heart disease, infertility or a higher risk for developing other cancers, she says.

Previous research suggested that a gene called PRDM14 may be involved in germ cell tumors; studies have identified mutations



Embryonal carcinoma cells expressing the PRDM14 protein.

Image: UCLA Broad Stem Cell Research Center/Elsevier

in PRDM14 that make men more susceptible to testicular cancer. Scientists know that the gene plays important roles in embryonic development, but because it is generally turned off in adult tissues, no PRDM14 protein is produced by healthy adult cells.

Drs. Clark and Gell coaxed human pluripotent stem cells, which can create any cell type in the body, to differentiate into germ cells at the embryonic stage of germ cell formation, when they are known as primordial germ cells. Then, they engineered the primordial germ cell-like cells to produce more PRDM14.

They found that higher levels of PRDM14 didn’t block the formation of primordial germ cell-like cells. However, those elevated levels did cause the primordial germ cell-like cells to begin proliferating more than usual and to not differentiate correctly, which could be a step toward cancer. The researchers also analyzed samples of germ cell tumors from patients and found evidence of PRDM14 protein in embryonal carcinomas, seminomas, intracranial germinomas and yolk sac tumors — but not in teratomas, which suggests that the protein could be a marker pathologists could use to better characterize the type of tumor.



“PRDM14 Is Expressed in Germ Cell Tumors with Constitutive Overexpression Altering Human Germline Differentiation and Proliferation,” *Stem Cell Research*, January 4, 2018

# Promising Drug Strategy Could Slow Neurodegeneration

Alzheimer's disease destroys brain cells, in part, by promoting the formation of insoluble clumps that contain a protein called tau. Not only are these "tau aggregates" toxic for the cells that harbor them, but they also invade and destroy neighboring brain cells, or neurons, which speed the cognitive decline associated with Alzheimer's. For those reasons, Alzheimer's researchers have been intensely interested in therapies aimed at either preventing tau aggregation or blocking its spread. Now, researchers in the UCLA Department of Neurology and at the UCLA School of Nursing have reported a promising drug strategy that blocks tau transmission.

Using cultured cells, mouse models and protein structural analysis, researchers found that a small molecule called cambinol blocks the transfer of tau aggregates from cell to cell. The study could help lay the groundwork for therapies to treat Alzheimer's or other dementias associated with the accumulation of tau. "More than 200 molecules have been tested as disease-modifying Alzheimer's therapy in clinical trials, and none has yet attained the Holy Grail," says Varghese John, PhD, associate professor of neurology. "Our paper describes a novel approach to slow Alzheimer's progression by showing it is possible to inhibit propagation of pathologic forms of tau."

In healthy people, tau proteins are benign building blocks of a neuron's framework, or cytoskeleton. But in Alzheimer's disease, tau proteins fall away from the cytoskeleton, become abnormally modified and then form insoluble "neurofibrillary tangles" that destroy cells. To make matters worse, dying cells encase tau aggregates in lipid vesicles called exosomes, which then bud off and "seed" neighboring tissues, keeping the destructive cycle going.

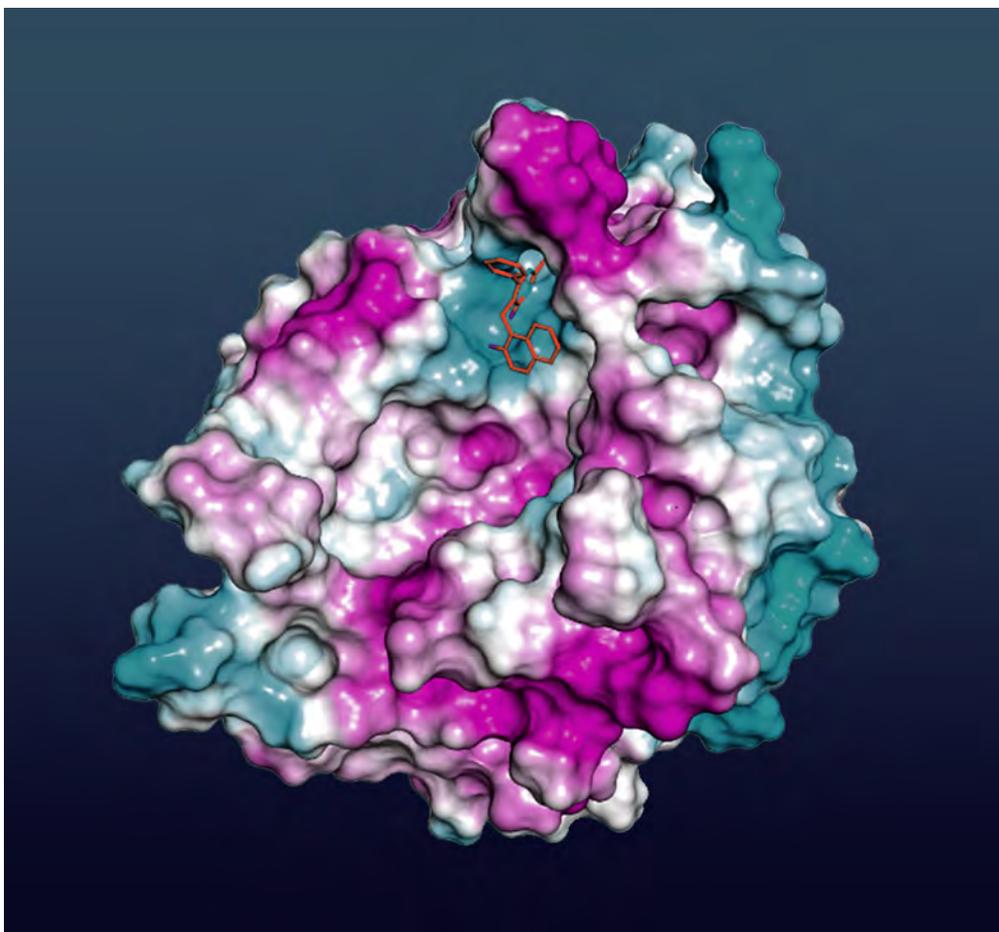
Researchers conducted several experiments that suggest that cambinol can subvert the "transfer" step by blocking an enzyme called nSMase2, which is essential for catalyzing production of the exosome carriers. In one, the scientists used "donor cells" that harbored tau aggregates derived from postmortem human Alzheimer's specimens and mixed them with tau-free recipient cells.

Without cambinol, the aggregates spread from donors to recipients, mirroring what happens in the brains of people with Alzheimer's. But when treated with cambinol, recipient cells remained tau-free when grown side by side with tau-positive donors, presumably because the drug disabled nSMase2 activity, blocking release of the tau-carrying exosomes.

The researchers also observed decreased nSMase2 catalytic activity in the brains of mice that were given cambinol orally. Dr. John says the seemingly routine experiment was an essential first step "because most drugs don't penetrate the blood-brain barrier," referring to the membranes that surround the central nervous system and keep drugs out of it. "Now we know we can treat animals with cambinol to determine its effect on Alzheimer's pathology and progression."

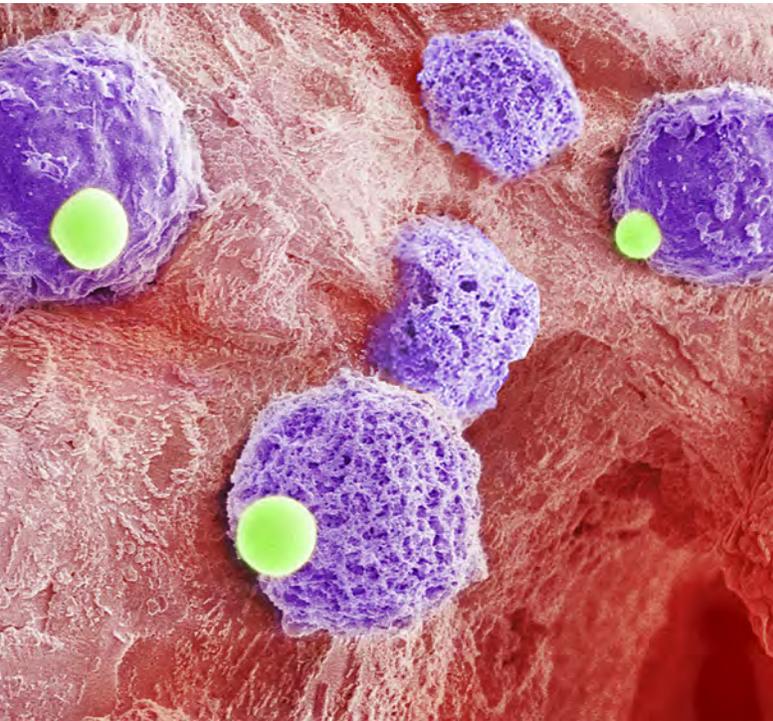
The research is the first to report on a model of how cambinol switches off nSMase2 catalytic activity at the atomic level, and it provides critical knowledge for medicinal chemists such as Dr. John to begin designing new drugs based on cambinol that are more potent and efficacious than the molecule itself.

 "Suppression of Tau Propagation Using an Inhibitor that Targets the DK-switch of nSMase2," *NatBiochemical and Biophysical Research Communications*, May 23, 2018



A model of cambinol (small yellow structure near top center) binding to nSMase2 enzyme.

Image: Kanagasabai Vadivel/UCLA Drug Discovery Lab



A scanning electron microscope colored to show the hematopoietic stem cells (purple) and blood platelets (green) joined together.

Image: Courtesy of Dr. Zhen Gu

## Two-cells-in-one Combo Could Be Platform to Bolster Leukemia Treatment

Researchers led by a UCLA bioengineer have developed a therapy — based on two types of cells joined into a single unit — that could help strengthen existing treatments for acute myeloid leukemia. One of the cells is a blood platelet that carries a drug that attacks cancer cells; the other is a stem cell that guides the platelet into bone marrow, the spongy tissue inside bone where new blood cells are made and where leukemia begins.

## Cancer Treatments May Be Linked to Decline in Cognitive Performance

UCLA researchers conducted a study of survivors of breast cancer to better understand if lower activity of telomerase (an enzyme that helps maintain the health of cells) along with DNA damage (a factor in cellular aging) were associated with worse cognitive performance, such as attention and motor skills. The study showed that lower telomerase activity and more DNA damage were associated with worse cognitive performance.

Cancer treatments may accelerate biological aging in cells. A previous UCLA study published in December 2017 linked lower

telomerase activity and more DNA damage with exposure to chemotherapy and radiation. Researchers assessed 94 women after they completed three-to-six years of breast cancer treatment. The researchers found that those who had been exposed to chemotherapy and/or radiation showed elevated levels of DNA damage in their blood cells and lower telomerase activity, compared to women who had undergone surgery alone.

In this new study, the UCLA team examined the participants' DNA damage and telomerase activity compared to their cognitive function. If the telomerase activity is low, the

telomere gets shorter and the cell dies. More active telomerase suggests a healthier cell and longer cell life. The same 94 women cited in the first study, who were between the ages of 36 and 69 and treated for early-stage breast cancer within the previous three-to-six years, participated in the new study. Investigators took blood samples to determine DNA damage, telomerase activity and evidence of increased inflammation. Cognitive function was assessed using a neuropsychological test and self-reporting among participants.

Some people who have had cancer treatments experience cognitive decline. The study's findings identify the correlation among telomerase activity, DNA damage and cognitive function. The study provides preliminary evidence that may help to inform future research and provide interventions

The researchers found that when injected into mice that had acute myeloid leukemia, the combination therapy halted the disease from developing any further. Of the mice that received the treatment, 87.5 percent were cured by 80 days after the combination cells were injected. Those mice also were all resistant to leukemia cells that were reinjected two months after the 80-day period.

Zhen Gu, PhD, professor of bioengineering in the UCLA Henry Samueli School of Engineering who led the study, says the approach could be used in concert with other therapies, such as chemotherapy and stem cell treatment, to improve their effectiveness. Dr. Gu says the approach would have to be tested in human clinical trials and then approved for use before it could be incorporated in treatments for people with leukemia.

Acute myeloid leukemia is a cancer that starts in bone marrow and affects the precursor stem cells to white blood cells, which are a key part of the immune system. The cancer can spread to the bloodstream and other parts of the body. With a compromised immune system, a person with this type of leukemia could die from complications from other diseases.

As a treatment for leukemia, chemotherapy on its own is only moderately effective: Leukemia fails to go into remission in about one-third of patients following chemotherapy, according to the American Cancer Society. And about half of people with the disease who do experience remission initially may have a relapse — typically within two years after treatment — usually because some cancer cells can take shelter in bone marrow, where the chemotherapy can't reach them.

The UCLA-led research aimed to solve that problem by devising a method to deliver medicine directly into the bone marrow. The approach, which researchers termed “cell combination drug delivery,” is the first to link two different cells together for therapeutic purposes.

In the combined cells, the blood platelets are used to deliver immunotherapy drugs called checkpoint inhibitors (the UCLA researchers used a drug called an anti-PD-1 antibody), which seek out cancer cells and neutralize their defenses. Once that happens, the body's immune system can “see” and destroy the cancer cells.

The second element of the two-cell combination is a hematopoietic stem cell. Hematopoietic stem cells, or blood stem cells, can find their way into the bone marrow through specific chemical signals — an important ability for the study because cancer cells could be located anywhere in the body.

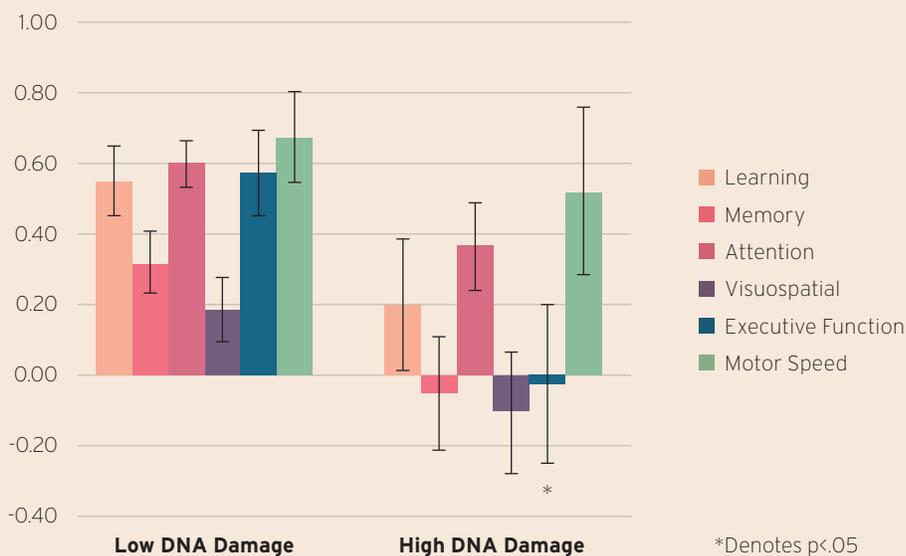
The researchers plan to continue studying the approach as a potential therapy for leukemia and other diseases.

 “Conjugation of Haematopoietic Stem Cells and Platelets Decorated with Anti-PD-1 Antibodies Augments Anti-leukaemia Efficacy,” *Nature Biomedical Engineering*, October 29, 2018

to prevent cognitive decline in people with cancer who receive chemotherapy and/or radiation treatments.

“Taken together, this research provides preliminary evidence that the cancer treatments can leave a lasting imprint on some individuals,” says Judith Carroll, PhD, associate professor of psychiatry and biobehavioral sciences and a member of UCLA's Jonsson Comprehensive Cancer Center. “Our hope is that future research will target these biological aging pathways to prevent the cognitive declines experienced by some cancer survivors.”

 “Cognitive Performance in Survivors of Breast Cancer and Markers of Biological Aging,” *Cancer*, November 26, 2018



Mean population-normalized neuropsychological test score by domain in cancer survivors categorized by low DNA damage and high DNA damage.

Graph: Courtesy of Dr. Judith Carroll

# Beyond the Ivory Tower

*Omai Garner, PhD (FEL '12), and Linda Baum, MD (RES '89), are dedicated teachers and researchers. Outside of the laboratory and classroom, they find fulfillment working to build social justice and empower youth from underserved communities.*

**Dr. Omai Garner**  
Assistant Professor  
Section Chief,  
Clinical Microbiology,  
Department of Pathology  
and Laboratory Medicine

**Dr. Linda Baum**  
Professor and Vice Chair  
for Academic Affairs,  
Department of Pathology  
and Laboratory Medicine

Associate Dean,  
Medical Student Research  
and Scholarship

In 2007, Omai Garner, PhD (FEL '12), came to UCLA to work as a postdoctoral fellow with Linda Baum, MD (RES '89), PhD, a professor in the Department of Pathology and Laboratory Medicine. He also had another reason for moving to Los Angeles. "I was interested in engaging in community outreach," he explains. "Early on, I told Linda that I wanted to get involved." Dr. Baum not only encouraged Dr. Garner, she joined him. For the past decade, the two have pursued what they call "a wonderful and important mission" — helping to lead and shape the Social Justice Learning Institute (SJLI), an education-oriented nonprofit based in Inglewood, California. Dr. Garner, now an assistant clinical professor of pathology and laboratory medicine, co-founded SJLI, and he chairs its board of directors. Dr. Baum is a member of the board. "Our primary goal is taking care of patients," she says. "But we also need to be part of the community." Drs. Garner and Baum talked with *U* Magazine contributor Karen Stevens about the joys and challenges of nonprofit work and the benefits of engagement.

## Why and how did you get involved with SJLI?

**Dr. Omai Garner:** I am from the Milwaukee area, and Milwaukee is a hyper-segregated city where the black population is the poorest. Growing up, I was a part of programs like SJLI that educated me about racial disparities and helped me be active in the community. I came to UCLA after receiving my PhD from UC San Diego. In the *Graduate Quarterly*, I read that D'Artagnan Scorza, as part of his graduate research in education, had started a Black Male Youth Academy at Morningside High in Inglewood. He wanted to help students achieve academically and develop a positive identity and leadership skills. I began teaching with him. After about six months, he asked if I knew anything about forming a nonprofit. I did not, but I was feeling overly ambitious, so I said, "Yes." We started SJLI in 2008. I asked Linda if she would like to be on the board.

**Dr. Linda Baum:** My dad dropped out of high school and my mom did not go to college, so I was

# SOCIAL JUSTICE LEARNING INSTITUTE



Dr. Omai Garner (left) and Dr. Linda Baum.

Photos: Ann Johansson

interested in how people get exposed to education. My family originally was from New York. My great-grandparents got off the boat at Ellis Island. There was a belief in our family that you were going to make something of yourself. If there were an opportunity, you would take it and pull yourself up.

### What are the main goals of your organization?

**Dr. Garner:** Education is the through-line for everything. We empower youth from South Los Angeles and neighboring areas to be successful in high school and after graduating.

**Dr. Baum:** We want to help as many students as possible to take their education as far as they can, offering options for kids who come from places where a lot of resources don't exist. The original and primary focus has been on the group most at risk, which has been boys and young men of color. Now that the approach has proven to be successful, we want to expand it to different groups and to all young people.

**Dr. Garner:** One great example of what we do is our Urban Scholars Program. Its in-school curriculum gives students tools and resources — tools such as a high school diploma and the research methods to identify, understand and find solutions for community problems — to enact change in their communities. More than 1,600 students have gone through Urban Scholars or other programs such as college tours or workshops. Among the Urban Scholars, we have seen an average high school graduation rate of 91 percent and an average college enrollment rate of 87 percent. We also offer Urban Health Fellowships. Each summer, 12-to-20 high school juniors and seniors receive a six-week intensive program during which they learn about chronic diseases. Lecturers come from the David Geffen School of Medicine at UCLA and the Charles R. Drew University of Medicine and Science. We also bring students to campus. They get to learn about all kinds of careers in health care, not just about being doctors and nurses.

“More than 1,600 students have gone through Urban Scholars or other programs such as college tours or workshops. Among the Urban Scholars, we have seen an average high school graduation rate of 91 percent and an average college enrollment rate of 87 percent.”

“The graduation rate among our students has skyrocketed. Just to finish high school is important. For many of these kids, it wasn’t expected. It is sad how kids who are really able and capable can be brought down by bad expectations.”

**Dr. Baum:** Omai and I both work in the clinical laboratories, where there is a large staff of laboratory technologists who can be involved as career mentors. In addition, there are respiratory therapists and radiological technicians who have worked with our students. One great outcome is that staff, who might not otherwise have a door into the process of community engagement, appreciate being included as role models. The folks we work with in the clinical labs are wonderful and dedicated, but often they are invisible. This gives them exposure, and it has uplifted the esprit de corps. People used to be pretty siloed. They did their jobs. Now they are involved, not only in this, but also in other programs involving men’s health and a health fair for the homeless. Being part of the community snowballs.

**Have colleagues in other areas also been inspired by your work?**

**Dr. Garner:** I have had physicians ask how I turned the outreach I wanted to do into something as successful as SJLI. Some want to participate with us, and some people have their own passions and want to do things themselves, now that they see what we are able to do and how a successful nonprofit works.

**Dr. Baum:** Another thing that is great is that we both teach in the medical school. UCLA is in the city, but it is an expensive part of the city. Our students come from all over. It’s good for them to

know from the first day that faculty are engaged. It is important for them to know we don’t exist just in the ivory tower of academia.

**SJLI’s impact on the community extends beyond education.**

**Dr. Baum:** What we realized over the years is that education ties into community engagement. It is very hard for students in a community that is underserved to be successful in school. We focus on education, but we also try to make life better, more enjoyable, for the students who participate in our program. For instance, students can take on research projects that respond to problems such as food justice or environmental justice.

**Dr. Garner:** We have classes that have trained thousands of community members in nutrition, gardening and physical fitness. We are a partner in programs such as BLOOM (California Community Foundation’s Building a Lifetime of Options and Opportunities for Men), which helps redirect the lives of young black men involved in the probation system.

**How else has the nonprofit evolved?**

**Dr. Garner:** We started with D’Artagnan and volunteers. Now, we have a paid staff of 21 and a nearly \$2 million annual operating budget that comes from philanthropy, grants and contracts. We have touched thousands of lives, including students



who have gone on to college and ones who succeed in other ways. Besides college, there are equal measures of success such as value to the community. You can go on to firefighter school or be an EMT.

**Dr. Baum:** The graduation rate among our students has skyrocketed. Just to finish high school is important. For many of these kids, it wasn't expected. It is sad how kids who are really able and capable can be brought down by bad expectations.

### **How have your own roles evolved? What have you learned?**

**Dr. Garner:** I learned there are two pieces to a nonprofit. One is doing the on-site work. The other, which is less well-known, is what the board of directors does. When D'Artagnan and I pieced things out, it was clear that he was going to be the executive director and lead the active side and that I was going to tackle the board. For the board, you need committed people who are interested in the financial well-being of the nonprofit. You also need to identify a small group interested in the strategic planning. What Linda and I do, what we spend our time thinking about, is how to grow and support the organization.

**Dr. Baum:** For board members, it's important to realize that our primary responsibility isn't to be the teachers and coordinators but to help in other ways. For example, we can come at things from a different angle. As hard as it is for the people doing the boots-on-the-ground stuff, you need someone who is able to take a look and say, "This program is going great, but this one is not yielding results. Do we need to keep putting resources into it?" Omai and I are scientists, experimentalists. We are flexible, not "We have to do it this way." We also are quantitative geeks. D'Artagnan is more qualitative, which is good because it's important to have lots of tools in your toolbox. He looks at how students' lives are impacted. Having these stories is fantastic, but you also need quantitative data so you can measure success accurately and honestly. We can help maximize output and benefits. One of the things that has made SJLI successful is D'Artagnan's willingness to approach things intellectually. Design an intervention and come up with measurable criteria to see if it works. Define a population, show you've made significant change in the population, adjust for variables and expand.

### **You mentioned that finances are one of the board's major concerns.**

**Dr. Garner:** When we first started, we were the grant writers.

**Dr. Baum:** We work in a system where we know how to get grants, to get funding. From the get-go, we said to D'Artagnan that we have to have a diverse portfolio of resources. Find some high-value donors, but we also need grants because the external validation is important. One challenge is that small organizations sometimes can't see the bigger picture. That is where our experience at UCLA helps. Omai runs a section of the clinical labs. I was director of the labs for several years. We teach, but we teach at a different level than high school. UCLA operates at a different scale. Because of this, we see things in a different way. We can help figure out how to scale things up.

### **Has your work with SJLI enhanced your work at UCLA?**

**Dr. Garner:** Yes. I have found that community engagement is an essential part of being a professor. It also has had an impact in other ways. For example, one National Science Foundation grant awarded to UCLA to develop the next wave of diagnostics for chronic heart disease and diabetes includes funding to reach out to underserved communities, such as the kinds of communities with which SJLI works.

### **What would you like to see your organization achieve in its second decade?**

**Dr. Garner:** The first 10 years were about "Can we build something?" We did. We have a program that has an effect on the most at-risk population, boys and young men of color. Now it serves as a model for what we can use across the United States. The next 10 years is about improving on the programs and expanding nationally to other urban areas. Outside of Southern California, we have done programs in Sacramento and Houston. By scaling up, we think we can connect with hundreds of thousands of students across the country.

"The first 10 years were about 'Can we build something?' We did. We have a program that has an effect on the most at-risk population, boys and young men of color. Now it serves as a model for what we can use across the United States."



For more information about the Social Justice Learning Institute, go to: [sjli.org](http://sjli.org)

# Parasite Sleuth

**Elissa Hallem, PhD**

**Associate Professor, Microbiology, Immunology & Molecular Genetics**

ILLUSTRATIONS BY NIGEL BUCHANAN



Dr. Elissa Hallem's groundbreaking work to understand how tiny parasitic worms use odor detection to find and invade human hosts earned her the prestigious MacArthur "Genius" Fellowship in 2012. Her research has global implications; *Strongyloides stercoralis*, commonly known as the human threadworm, affects an estimated 30 million-to-100 million people worldwide and can cause chronic gastrointestinal distress and, in patients who are immunosuppressed, potential death. Research into how the worm behaves can lead to improved prevention and treatment strategies.

Dr. Hallem steps into the *U* Magazine spotlight

## When did you first start thinking about science?

I guess I have always been interested in science. That probably was because of my dad. He has a PhD in chemistry, but he is not a chemist. He became a computer programmer, but he always had a very broad interest in science. He would cut out articles from *Scientific American* for me to read, and he always was very encouraging in terms of my pursuing a career in science.

## What was your first science experiment?

The first research lab that I worked in was here, at UCLA, when I was in high school. I don't really remember the first experiment, but we were looking at different mutant phenotypes in fruit flies, and we were sectioning the eyes and looking to see how they developed. That's as close as I can recall to a first experiment.

## Who is your science hero?

Someone whose science I really admire is my post-doc advisor Paul Sternberg at Caltech. What is so great about the way Paul does science is that he is interested in everything. He has really broad interests and is willing to pursue any interesting question that the people in his lab want to pursue. He is equally excited about everything that's going on.

## Where are you happiest?

I really like my work. I also really like hanging out with my kids, so I guess I'll say it's when I'm spending time with my kids, reading with them. It's a lot of fun when we're immersed in a book series, like *Harry Potter* or *The Books of Bayern*.

## What has been your finest achievement?

My lab has been working to develop tools to study the neurobiology of parasitic worms. Previously, not much was known about parasitic worms because there were so few tools to study them. Now that we have developed tools, I think we'll be able to move the field forward in new ways.

## What is the characteristic that most defines you?

Maybe it is that I am extremely, and perhaps overly, careful and take a cautious approach to science.

## What are the qualities of a great scientist?

Being able to find a unique direction. I've never liked the idea of doing something where I know there are a lot of other labs doing the same thing, and then it's just a race to see who does it first. I always have tried to find research areas where I think there's

a really important biological question or a question with public health relevance, but where nobody else is working or where progress isn't really being made.

### What qualities do you appreciate most in your colleagues?

I appreciate colleagues who really get excited about science in general and who think outside of their specific research areas. Some of the best interactions I've had are with people who are not necessarily in a related field but who really take a broad interest in science and are willing to engage with research outside of their areas.

### Whom do you most admire?

My mom. She is a lawyer and has always worked full time, but she always made time for us. For a long time, I didn't quite realize how exceptional that was. She was one of the only working moms when I was growing up. Now she is a partner at her law firm, and she is involved in a number of programs designed to help the young women at her firm succeed and become partners. I think that's really made a huge difference in the lives of the young women at her firm.

### If you were not a scientist, what would you be?

If I think in terms of doing something I might enjoy, it probably would be something that involves writing. I enjoy writing grants and papers; it's a lot of fun.

### To which super hero do you most relate?

I'm not really up on my super heroes. I recently watched the second *Incredibles* movie with my kids and I did enjoy that movie. But that's about all I can say in terms of superheroes.

### What are you most compulsive about?

Arranging data into figures and making sure that all of the figures have the same line width and all of the fonts are the same and they're all lined up perfectly. My lab likes to make fun of me about that.

### Where does your inspiration come from?

Working with the people in my lab. I really enjoy working with such a great and talented group of people and seeing them develop scientifically and find their own research interests.

### What is the best moment of your day?

I like both the beginning of the day and the end of the day. At the beginning of the day, I drop off my kids at school, and I come in to work and I have the whole day ahead of me to get things done. And at the end of the day, I pick up my kids from school, and I know I will have time to spend with them.

### What has been your biggest aha! moment?

For my post-doc, I studied insect-parasitic worms. We were using the insect-parasitic worms as models for human-parasitic worms. At some point, it became really clear to me that if I wanted to understand human-parasitic worms, I actually had to study a human-parasitic worm and not an insect parasite as a model.



# Heartbreak. And Hope

By Vanessa McGrady • Illustration by Traci Daberko

A miscarriage can be as emotionally catastrophic as it is scientifically complex. While there are no comforting answers, researchers are working to better understand the underlying causes of this life-changing complication.

Two simple pink lines on the plastic stick seemed to foretell my future. Pregnant, the test showed. Not that I'd been trying, but I hadn't *not* been trying. Suddenly, I morphed from a determined vegetarian into someone who craved meat as if I were a famished lioness. I started voraciously reading about what pregnancy was doing to my body and how to take care of the tiny speck growing inside me. And I fell madly, irresistibly in love with the idea of becoming a mother.

I was about six weeks in and proceeded as a Normal Pregnant Person. At 12 weeks, I noticed some blood; a trip to the doctor confirmed that I would miscarry. A “blighted ovum,” she said. While the embryo had attached to the uterine wall, it did not develop past the very early stages. It had taken a few weeks before my body got the message, and it continued to operate as if I were pregnant, offering

a trifecta of symptoms: morning sickness, breast tenderness, extreme exhaustion. That weekend, I passed a lot of blood and tissue with the help of some violent cramping, and I nearly required a blood transfusion. At the end of it all, my hopes became dashed dreams.

I felt painfully alone and awkward, watching as friends' bellies bloomed to full-term pregnancies and then, voila, they were parents. But, really, it wasn't just me. Infertility and miscarriage strike young and old, rich and poor, celebrities and common folk. There's a #ihadamiscarriage social media presence started by Jessica Zucker, PhD, a psychologist in Los Angeles who specializes in women's health issues, to help normalize the experience. Even former First Lady Michelle Obama had trouble conceiving and turned to in vitro fertilization after a miscarriage, she reveals in her memoir, *Becoming*.





**Left:** Dr. Aparna Sridhar: “Even if everything appears to be normal, miscarriages can happen. We can’t always determine a cause, especially for the first miscarriage.”  
**Right:** Dr. Amander Clark: “Human reproduction depends on high-quality gametes and a perfectly timed cell and molecular program for initiating embryonic development. Getting all of this right is not an easy process.”

Photos: Jessica Pons

While many people believe that miscarriage is a rare complication of pregnancy, the reality is that 15-to-20 percent of clinically recognized pregnancies — 750,000-to-1 million cases annually — end prematurely. One large Danish study reckons that more pregnancies — including ones that are not clinically recognized — end in miscarriage than go to term.

I wanted to know, more than anything, what I could have done differently to keep that baby growing inside me. I kicked myself for drinking too much coffee and the oaky cabernet I’d enjoyed with dinner before I knew I was pregnant. I wondered if I should have done more yoga. Or maybe I should have done less yoga.

There are so many misconceptions around the causes of miscarriage. Among ones identified in a study of attitudes and perceptions toward miscarriage that was published in 2015 in the journal *Obstetrics & Gynecology* are: a stressful event (76 percent); lifting heavy objects (64 percent); having had an STD in the past (41 percent); past use of an IUD (28 percent) or oral contraceptive (22 percent); getting into an argument (21 percent).

There were no satisfying answers. Ultimately, the reason for miscarriage is as simple as the underlying causes are complex: The embryo doesn’t form properly and the body eventually rejects the tissue.

My miscarriage at 12 weeks felt like an abdominal apocalypse, and I ended up going to the hospital as I turned translucent from loss of blood. My second and third pregnancies, years later, were nearly over as soon as they began. They ended at around seven or eight weeks, barely registering and feeling more like a heavy period than anything else.

**TALKING WITH A WOMAN AFTER A MISCARRIAGE** can be among the most difficult conversations that a physician has with her patient, says Aparna Sridhar, MD (FEL’13), MPH, an OB/GYN at Ronald Reagan UCLA Medical Center. The woman often is filled with guilt and recriminations, as she wrestles with the idea that she did something wrong or that something is wrong with her or with her partner. “Even if everything appears to be normal, miscarriages can happen. We can’t always determine a cause, especially for the first miscarriage,” Dr. Sridhar says.

I, too, scanned my memory to try to remember what I might have done to bring on my miscarriage. But it probably wasn’t any of the things that my mind landed on — yoga or wine or any number of other small potential infractions I’d committed. A miscarriage is much more nuanced than that.

Researchers are learning more and more about the process that cells undergo following

conception, and how, in some cases, things can go wrong. At UCLA, Amander Clark, PhD, chair of the Department of Molecular, Cell and Developmental Biology and a member of the Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA, and her team are examining what happens in the very earliest stages of development. They have looked at the epigenetic changes — ones not due to genetic factors — in stem cells of a new embryo that can make or break a viable pregnancy.

In their earliest stages, embryonic stem cells are in what is called a “naive” state and can turn into any cell in the body. At about two weeks, when the embryo is supposed to implant to the uterine wall, the cells move to a “prime” state and start their journey to become specific cells with specific functions throughout the body. But if there is a glitch along the way, the cells likely will not become a viable embryo. “Human reproduction depends on high-quality gametes and a perfectly timed cell and molecular program for initiating embryonic development. Getting all of this right is not an easy process,” Dr. Clark says.

Studying the causes of miscarriage on a cellular level in humans is difficult because such research traditionally has been conducted on animals, mostly mice. “The cell and molecular requirements for human embryo development are not well-understood. If scientists could study the pre-implantation stages using embryos donated to research and model the peri-implantation stage using stem cells, this could help to better understand the causes of miscarriage,” Dr. Clark says.

In her research, Dr. Clark looks at the way DNA is compacted into a cell’s nucleus. In order for genes to turn on, tiny regions of DNA in the nucleus must de-compact, so that gene-regulatory proteins can bind and send cues to the neighboring gene. One of those proteins, TFAP2C, is essential in naive cells. When scientists removed TFAP2C from the naive cells with the gene-editing tool CRISPR, the response of the cells was altered and the naive cells were lost. Therefore, if TFAP2C does not work correctly during the first two weeks of development, the cells of the human embryo would be lost and a miscarriage would occur.

**THERE ARE DIFFERENT TYPES OF**

**MISCARRIAGES.** The kind I experienced, a blighted ovum, is the most common. But “biochemical” pregnancy losses such as those related

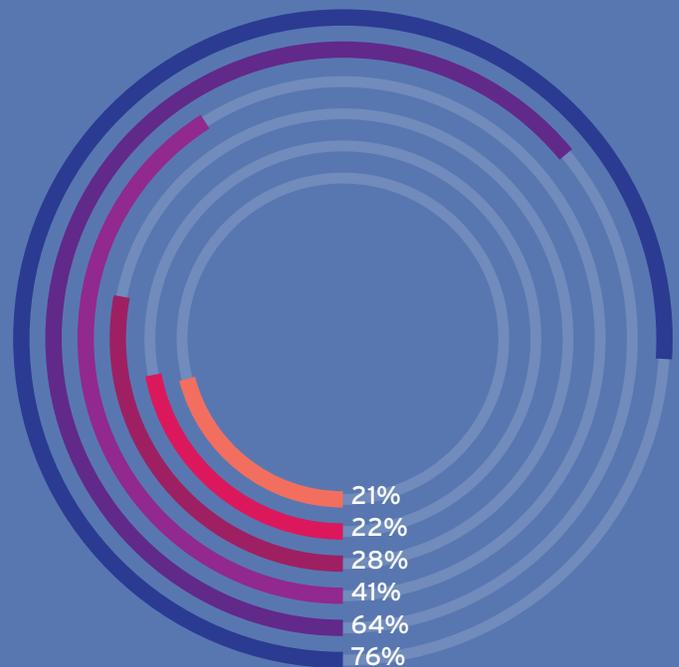
to Dr. Clark’s research occur very early, within the first week or two after conception, before a woman may even recognize that she is pregnant.

And while we don’t fully understand what triggers such abnormalities, there are certain conditions and behaviors that can exacerbate the likelihood of a miscarriage. No. 1 on the list? “A woman’s age,” Dr. Sridhar says. “That is the most important risk factor that we know of.”

A woman over 35 years of age is more likely to have a miscarriage, ectopic pregnancy or stillbirth than a younger woman. And if she has conceived with a partner who is over 40 years old, that risk goes up. Women 20-to-24 years old face an 8.9 percent miscarriage rate, which increases to 20 percent at 35, 54.5 percent at 42 and to more than 74 percent at age 45 or older.

“If scientists could study the pre-implantation stages [of human embryo development] using embryos donated to research and model the peri-implantation stage using stem cells ... this could help to better understand the causes of miscarriage.”

## Common Misconceptions Around the Causes of Miscarriage



- A stressful event
- Lifting heavy objects
- Having had an STD in the past
- Past use of an IUD
- Oral contraceptive
- Getting into an argument

Identified in a study of attitudes and perceptions toward miscarriage that was published in 2015 in the journal *Obstetrics & Gynecology*

“We always try to provide psychosocial support when someone’s lost a baby. If it was a desired pregnancy – and often even if it was not – there’s a sense of loss, sadness or failure. Pregnancy loss stirs up all kinds of feelings.”

Behaviors that may adversely affect an early pregnancy include smoking, drug use and consuming extremely high amounts of caffeine — 10 or more cups of coffee per day, for example. Dr. Sridhar says a woman who has so indulged before she knows she is pregnant should not panic; just stop as soon as possible. Use of non-steroidal anti-inflammatory drugs such as aspirin or ibuprofen around the time of conception also may be a factor that contributes to miscarriage, according to a 2003 Kaiser Permanente study published in *The BMJ*.

Structural abnormalities of the uterus also are linked with miscarriage. “The classic uterine abnormalities associated with miscarriage have been from congenital malformations of the uterus and fibroids” — tumors of the female reproductive system, says Daniel Dumesic, MD, professor of reproductive endocrinology and infertility. Hormonal influences also can present significant challenges, disrupting ovulation and affecting the ability of the ovaries to make progesterone, resulting in improper preparation of the uterus for implantation of an embryo.

Obesity can further complicate the picture, potentially disrupting the quality of the egg and embryo (as well as possibly predisposing offspring

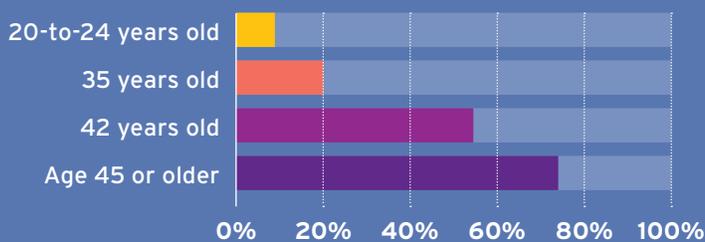
carried to term to obesity via a concept known as “fetal programming”). Studying obesity and its effects on pregnancy is a new research frontier, Dr. Dumesic says.

There are yet other influences that are related to the environment, either through diet or endocrine disruptors — natural and/or manmade chemicals that may interfere with the endocrine system — that can affect hormones and alter the course of a pregnancy. Such issues, however, are not so easy to research, Dr. Dumesic notes. Unlike in a controlled laboratory condition, “People in the real world rarely are exposed to just one endocrine disruptor,” he says. “Yes, there is concern about endocrine disruptors impairing reproduction in humans. But exactly which ones, and under what circumstances and at what levels, still are questions to be investigated very aggressively.”

In some cases, a woman’s own immune system can be the culprit, treating a normal embryo as if it were an enemy invader and developing antibodies to it, a condition called thrombophilia. The antibodies attack the cells of the placenta, which in turn forms blood clots that interfere with attachment and nourishment of the embryo. Treatment for thrombophilia can be as simple as low doses of baby aspirin to thin the blood.

Or the problem can be genetic. If a young woman has had multiple miscarriages, tests for both partners are in order to check for a “balance translocation,” or a problem with chromosomes. It now is possible to perform a genetic test on an embryo fertilized in vitro to determine if it has a normal or abnormal chromosomal number. A reproductive specialist can then transfer a normal embryo to the woman’s uterus, lowering the risk of her miscarrying.

## Miscarriage rates among women



A woman over **35** years of age is more likely to have a **miscarriage, ectopic pregnancy or stillbirth** than a younger woman. And if she has conceived with a partner who is over **40** years old, that **risk goes up**

**DURING THE BRIEF COURSE OF MY FIRST PREGNANCY, I HUNG A LARGE PIECE OF PAPER IN MY OFFICE** for people to write down suggestions for baby names. That poster felt like it weighed 100 pounds as I took it off the wall following my miscarriage. I folded it up and stashed it away in the back of a drawer. I was overwhelmingly sad — but also a tiny bit relieved, as the pregnancy had been a surprise, and I wasn’t sure about what future I had with my partner. People were genuinely sorry when they heard that I was no longer carrying a baby, and they offered lovely condolences, which helped to salve my embarrassment at having revealed my pregnancy so early on and then losing it.

Whatever I was feeling in the wake of the loss was not unusual, says Joan Gordon, a social worker at Ronald Reagan UCLA Medical Center and UCLA Mattel Children's Hospital. "We always try to provide psychosocial support when someone's lost a baby," she says. "If it was a desired pregnancy — and often even if it was not — there's a sense of loss, sadness or failure. Pregnancy loss stirs up all kinds of feelings."

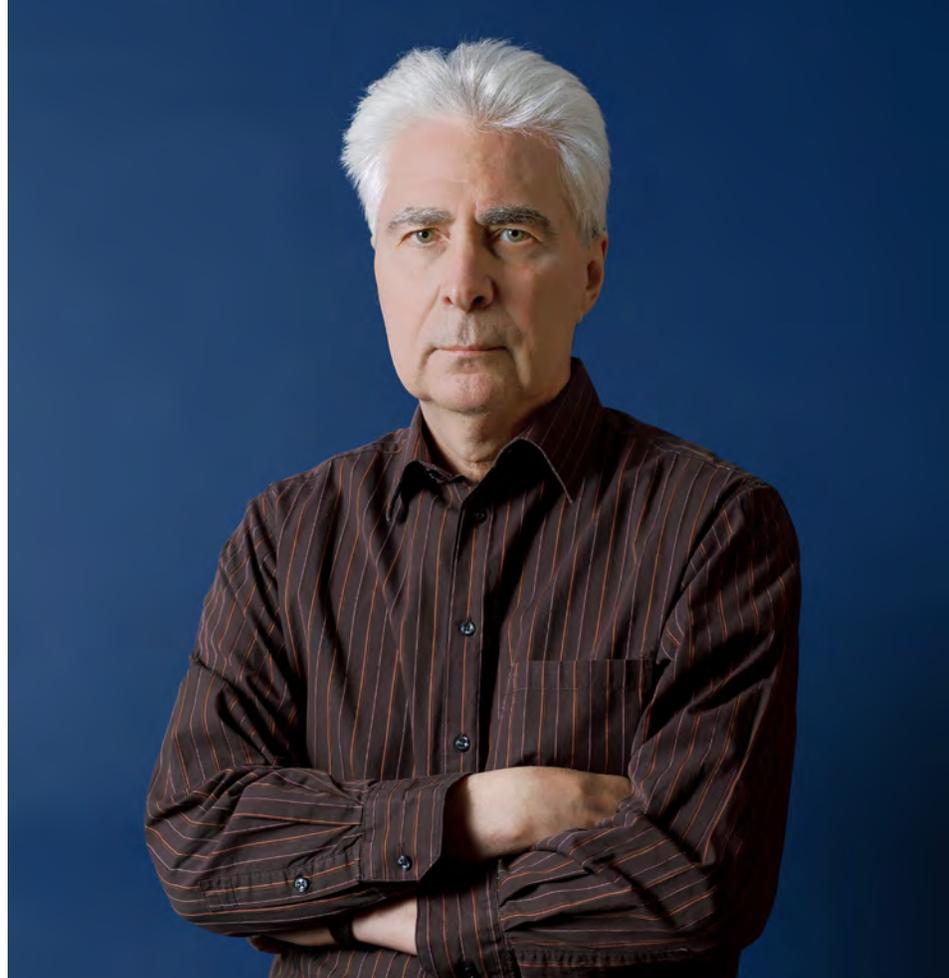
That 2015 attitudes study, which was conducted by Montefiore Medical Center and the Albert Einstein College of Medicine of Yeshiva University in New York, found that 47 percent of women who had a miscarriage felt guilty, and 41 percent reported feeling they had done something wrong. Forty-one percent felt alone, and 28 percent felt ashamed. The study further found that 45 percent of the women reported that they did not receive enough or the right kind of emotional support, adding to their distress. I felt most of those things.

Gordon does a lot of educating about what to expect after a miscarriage. "What's it going to be like when you go to the market and see a new infant in front of you at the checkout, or your sister or your cousin invites you to her bridal shower, or you hear the baby of your neighbor next door crying? These can be triggers that stir up all kinds of feelings," she says.

She tells a woman that while she did not have control over the baby's survival, she does have control over what she does in the next few months. That can mean saying no to a baby shower or declining to hang out with friends and family members who have kids until she is ready to reenter that world. It also means reminding women that not everybody knows how to talk about grief. Some friends or family members may disappear, believing that they are giving the woman some space, or they simply may not know what to say.

Some women who have lost pregnancies will want acknowledgment; others will want to move forward without a daily reminder. Gordon suggests that a woman returning to work or to a social group after a miscarriage talk with her manager or a friend about how she would like to proceed. "Do you want your colleagues to come up and give you a hug? Do you want people to mention it, or do you prefer that nothing be said?"

"Not everyone — perhaps not even your husband or your partner — will know how to behave. You may have to help them understand what you need," Gordon says. "It's almost like you have to guide



your family and friends, to teach them that maybe the most important thing is someone taking you out to get your nails done, or taking you to the movies or just letting you cry."

Ultimately, "You have to listen to yourself. Because your psyche, your heart and your head know what you need. Trust that and believe that eventually you will move forward."

**TIME DOES HEAL.** After my first miscarriage, my partner and I found a clearing in a nearby wood. As we stood embraced within a circle of cedar trees, I spoke to the spirit of the child I had carried for too short a time and then lost. I told her that if she ever wanted to return, I would be waiting for her.

Eleven years later, she found me.

**Vanessa McGrady** lives in Glendale, California, with her magical fairy sprite daughter Grace and their weird little dog. She is the author of *Rock Needs River: A Memoir About a Very Open Adoption* (Little A Books, 2019).



For information and to find a support group following pregnancy loss or bereavement after the loss of a child, go to: [la.missfoundation.org](http://la.missfoundation.org)



"TFAP2C Regulates Transcription in Human Naive Pluripotency by Opening Enhancers," *Nature Cell Biology*, May 2018

Dr. Daniel Dumesic: "There is concern about endocrine disruptors impairing reproduction in humans. But exactly which ones, and under what circumstances and at what levels, still are questions to be investigated very aggressively."

Photo: Jessica Pons

# THE LITTLES



Kathlyn Chassey was dying in a Texas hospital when word of her plight reached UCLA. Today, after a double lung transplant, she is back home and thriving.

Photo: Robin Jerstad

# ST

# WOOKIEE

By Susie Phillips Gonzalez

## The story of one young woman's wish to live, UCLA's response and a spaceship to Mars

### IT BEGAN WITH AN EMAIL.

*"Good morning Dr. Mazziotta,  
I hope that you are having a blessed and wonderful start to the day, and to the week Sir ...  
I am writing you, to please ask for your help, to save the life of a very special young lady ... Her name is Kathlyn Chassey."*

The letter landed in the inbox of John C. Mazziotta, MD (RES '81, FEL '83), PhD, CEO of UCLA Health, at 6:57 a.m., on December 5, 2016.

It was an appeal on behalf of a young woman in San Antonio, Texas, with cystic fibrosis whose lungs were failing as she entered the end-stage of her disease. Doctors treating her at Brooke Army Medical Center told her parents that she was too ill to be a candidate for a potentially lifesaving lung transplant, and they should begin to plan a funeral for their 24-year-old daughter.

But Kathlyn's family was not willing to give up. *"We seek advocates, anyone with real knowledge in this field, anyone with a position at another hospital, ANYONE THAT CAN HELP ... save Kathlyn,"* wrote J.R. (Jerry) Stoces, who had taken up the cause after learning of Kathlyn's plight through a mutual family friend. *"If there is any way that you can help ... provide guidance ... help this beautiful young lady to get a chance at life, I would be forever grateful."*

Dr. Mazziotta forwarded the email to Abbas Ardehali, MD (RES '97), surgical director of the UCLA Heart, Lung, and Heart-Lung Transplant Program, for his review and consideration. Four hours after receiving the email from Stoces, Dr. Mazziotta wrote back that Dr. Ardehali wanted

to contact Kathlyn's family and her physicians to obtain her records for further evaluation and to talk about taking her case.

One week later, on December 12, a C-130 Super Hercules transport of the U.S. Air Force's 59th Medical Wing lifted off from Joint Base San Antonio-Lackland with Kathlyn, her parents and a specialized pulmonary-care team on board for the four-hour, 1,200-mile flight to Los Angeles and Ronald Reagan UCLA Medical Center.

### TO START THE JOURNEY THAT WOULD BRING THEIR DAUGHTER TO UCLA,

Kathlyn's parents Chris and Julieann tapped into a community of friends that had developed around Kathlyn's love of *Star Wars* and a desire to raise awareness about her disease. Beginning at age 7, she started going to fan conventions and meeting celebrities, sweetening her introduction with a cupcake frosted with the letters "CF." It was at such a gathering that she met Peter Mayhew, the 7-foot-2-inch-tall actor who plays Chewbacca, the hirsute Wookiee in the *Star Wars* franchise, and his wife Angie. They became friends, and the couple gave Kathlyn the nickname The Littlest Wookiee.

When Kathlyn's lungs began irretrievably to fail, her mother's first thought was, "We just need one doctor to say yes." She turned to "Uncle Peter" and "Auntie Angie," hoping that their star power might help to reveal that one ray of hope. The Mayhews began a social media campaign, and they reached out to Stoces, a NASA contractor in Southern California whom they had met and befriended a decade earlier. "How could I not



Kathlyn Chassey (center), her parents Julieann and Chris and boyfriend Alec Lara celebrate the successful landing of the InSight Mars probe on the surface of the Red Planet.

Photo: Robin Jerstad

throw every energy and breath into trying to make a miracle manifest itself,” Stoces says of his reaction upon learning of Kathlyn.

Stoces emailed Dr. Mazziotta; Dr. Mazziotta contacted Dr. Ardehali; Dr. Ardehali and his team reached out to Kathlyn’s doctors in Texas; and Kathlyn came to UCLA.

“When I heard about this young woman who was in desperate need of a lifesaving therapy, I knew we should seriously consider this,” Dr. Ardehali says. “Our team reviewed the additional information that we received, and we felt that if there were any place in the country that could successfully offer her lung transplantation, UCLA was it. We have expertise that is unique in this country; we have been a last resort for so many patients, who, like Kathlyn, were considered to be unacceptable candidates by other programs.”

**WHAT BEGAN AS A CRY FOR HELP IN THE WILDERNESS** culminated five-and-a-half weeks later, on January 11, 2017, when Kathlyn walked out of Ronald Reagan UCLA Medical Center with a new pair of lungs and the hope for a full and bright future. But the story does not end there. As a personal thank-you, Stoces planned a special tribute. He arranged to have the names of Ronald Reagan UCLA Medical Center, Dr. Ardehali, Dr. Mazziotta, and pulmonary critical care specialist David M. Sayah, MD, PhD, associate director of UCLA’s adult cystic fibrosis program, etched onto a dime-size disk that would be on board NASA’s InSight

spacecraft as it hurtled through 300 million miles of space toward a landing near the equator of Mars.

“I wanted to celebrate the kind and healing hearts that make UCLA the shining light of hope it is to so many,” Stoces says. “It is just a small chip on a little spacecraft a planet away, but the names will be there for all time. That is what the beautiful hearts that fill the halls of this hospital do. Their miracles are timeless and affect so many.”

On November 26, 2018, Dr. Mazziotta was among those at Caltech, in Pasadena, when InSight gently settled onto the soil of Mars’s Elysium Planitia plain. The excitement of the moment “rippled through the whole place,” he says. What struck Dr. Mazziotta most was that “there aren’t many events that happen in the world that everybody can celebrate no matter where you live or what religion or race you are. None of those things that may matter on Earth matter with this. This,” he says, “is the most neutral positive event you can imagine, an accomplishment of humankind to do the engineering and get the spacecraft there and have it land safely. It is something that everyone can celebrate.”

At the same time, Kathlyn and her family watched a live stream of the landing from the comfort of their living-room sofa. Their names, too, were etched on the InSight craft. As a voice from mission control called out the final moments of the landing — “Telemetry shows parachute deployment.” “Radar powered on.” “The radar has locked on the ground.” “Altitude 600 meters.” “Altitude 400 meters.” “300 meters.” “200 meters.” “80 meters ... 60 meters ...

50 meters ... 30 meters ... 20 meters ... 17 meters.” “Standing by for touchdown.” “TOUCHDOWN CONFIRMED!” — shouts and cheers erupted and a jubilant Julieann shouted “We’re on Mars!” as Chris texted “Congratulations!!!!” to Stoces.

“To have Kathlyn [on Mars] after being so close to losing her is amazing,” Julieann said after the landing. “That is forever.”

**TODAY, KATHLYN IS AN OUTGOING AND EFFERVESCENT WOMAN** of 26 who does not hesitate, when asked, to climb into her custom-made Wookiee suit. She dreams that one day a Martian will come along and read her name on the lander. “Sometime in the future, they’ll find it and say, ‘These people were here first,’ and, hopefully, they will name streets after me,” she says, with a wide smile.

Angie Mayhew, who is vice president of the Peter Mayhew Foundation, which provides assistance to families of children undergoing medical treatment, recalls first meeting Kathlyn at a fan convention in 1999, when she was 7 years old. “She was this teeny, tiny girl and was so cute sitting in Peter’s lap while he signed autographs,” she says. In addition to being a fan, Kathlyn wanted to raise awareness of cystic fibrosis, a progressive genetic disease that causes persistent lung infections, by enlisting the voices of celebrities she met.

Their friendship continued, and Kathlyn’s community expanded to include dozens of *Star Wars* fans, including members of the 501st Legion, a group that wears costumes to promote *Star Wars* films and events. Angie Mayhew recalls seeing Kathlyn at a convention in Houston in October 2016. Although Kathlyn was not doing well, she was able to sit in the Mayhew Foundation’s booth to interact with the public. Still, it came as no surprise to Angie when, six weeks later, Julieann reached out for help.

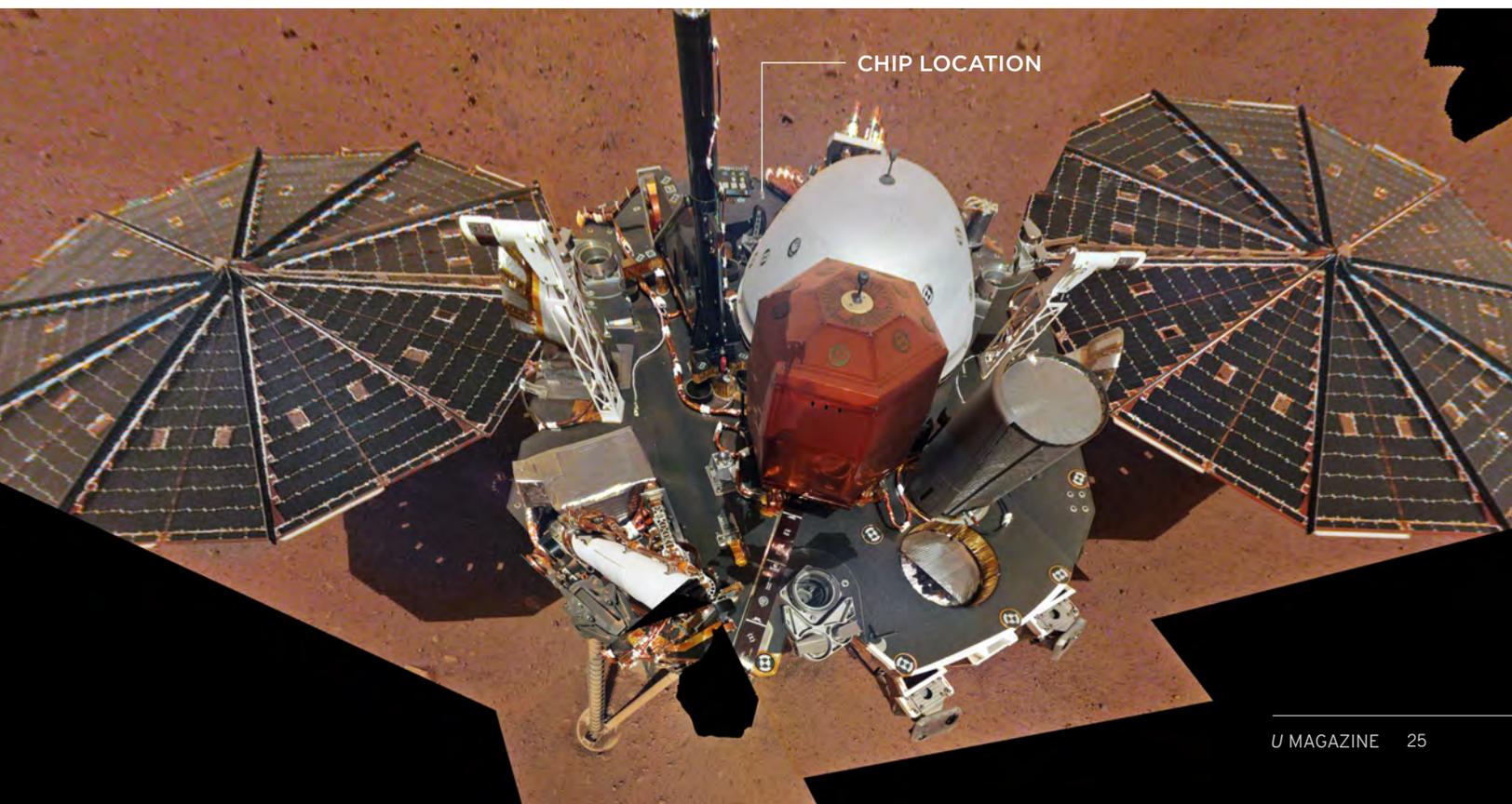
“Julieann said, ‘All the doctors have turned her down. We just need one doctor to say yes — that he will at least evaluate her,’” Angie recalls. That conversation led to a Twitter and Facebook campaign and outreach to their friend Stoces.

When Dr. Ardehali and his team said “Yes,” a new chain of events began to bring Kathlyn from Texas to California. An online fundraising campaign was launched to help cover the expenses that would be associated with her surgery and hospitalization. Kathlyn’s father is a chief master sergeant in the U.S. Air Force, so, as a military dependent, she was eligible to be flown to Los Angeles on a military medical transport. The team that accompanied her included 20 skilled specialists to monitor Kathlyn, as well as the complex equipment, which included a life-sustaining ECMO (extracorporeal membrane oxygenation) machine.

“It is just a small chip on a little spacecraft a planet away, but the names will be there for all time. That is what the beautiful hearts that fill the halls of this hospital do. Their miracles are timeless and affect so many.”

InSight settled gently to the surface of Mars at 11:52 am PST on November 26, 2018. In this selfie from the surface of Mars, the chips with the names of Ronald Reagan UCLA Medical Center, UCLA physicians and the Chassey family are visible on the deck of the lander.

Photo: NASA/JPL



Once in Los Angeles, the Chasseys settled in to wait. Kathlyn's parents stayed at Tiverton House, UCLA Health's hotel for patients and their families near Ronald Reagan UCLA Medical Center. Now hospitalized in Westwood, Kathlyn continued her practice of trying to walk as much as possible. One nurse played a recording of the theme from *Rocky* as Kathlyn ambled down the hall. She would stop at the rooms of other patients and share words of encouragement and swap stories. Other patients took to calling her the "Wookiee cheerleader."

It was December, which is a busy month for the Chassey family. Kathlyn's birthday is December 3. Then there is Christmas, followed by Chris's birthday on December 26. With Kathlyn in the hospital, he celebrated his birthday at a Japanese restaurant, in honor of his daughter's favorite cuisine. But the party was a somber affair. That is until Chris concluded a silent wish for his daughter to get new lungs and blew

out the candles on a piece of birthday cake — and his cell phone rang. The screen showed Kathlyn was the caller, but that wasn't possible, Chris thought. Kathlyn had a tracheostomy and could not talk. Unknown to her parents, a nurse had been teaching Kathlyn how to speak — albeit hoarsely — in spite of the trach.

"I got new lungs," she said in a soft and gravelly voice, informing her parents that there was a donor. Back in the hospital, Chris and Julieann waited with their daughter. At around 5 a.m., Julieann heard a member of Kathlyn's medical team say, "The lungs are viable," and she

and Chris watched, with a mixture of hope and fear, as their daughter, clutching a stuffed wolf that was a gift from her boyfriend, was wheeled to the OR.

Kathlyn now celebrates that day, December 27, as her "rebirth day."

**THE DAY AFTER KATHLYN GOT HER NEW LUNGS**, members of the 501st Legion came to visit her. Kathlyn says that she insisted they first spend time with children in the hospital. "I remember being a kid and being hospitalized and bored, with nothing to do. I couldn't interact with those kids (post-transplant), so I directed the 501st to

go do that." Chewbacca and a number of *Star Wars* Storm Troopers brightened that day for many of the hospitalized children.

Two weeks later, Kathlyn left the hospital and walked the half-mile to Tiverton House, accompanied by some of her costumed friends from the 501st. "Going down the street, I kept yelling, 'I got new lungs!' People would roll down their windows and honk at the Troopers and Darth Vader, and I would wave and shout, 'I got new lungs!'"

She also drew deep breaths to "taste" the air.

Her transplant was followed by seven months of recovery, follow-up appointments and sightseeing trips around Los Angeles with Stoces — now known as "Uncle Jerry." At an Angels baseball game, she got to meet the players on the field. The family went whale-watching and, of course, to Disneyland. "Jerry made sure that when Kathlyn got her lungs, she could do things," Julieann says. "He went from being a stranger to a member of our family, and we are grateful."

**BACK HOME IN TEXAS**, Kathlyn and her family stay in contact with members of her medical team. She now has functional lungs, but must contend with other medical issues like diabetes and hearing loss. She can't eat uncooked foods like sushi — a big disappointment for her — or leftovers that have been reheated too many times. Even so, she is doing remarkably well. At just under 5 feet tall, she slips into her Wookiee costume — complete with head and feet — to entertain at fundraisers or children's parties, a Mini-Me version of the 7-foot-2-inch-tall Mayhew in his Chewbacca getup.

Still, there is something she wants to do, but she can't quite figure out how: to write a thank-you letter to the family of her lung donor. She is struggling over what to say, Julieann says. It is daunting to try to say thank you to a family who has lost a loved one but had the generosity and grace to donate that person's organs so that she may live.

Her mother's phrase "all we need is one doctor to say yes" has been replaced by "never tell her the odds." It is not easy living with a transplant, but, with grit and humor, Kathlyn keeps fighting. "She's stubborn," Julieann says.

Says "Auntie Angie," "She's had to be a fighter all her life to survive. We don't call her The Littlest Wookiee for nothing."

**Susie Phillips Gonzalez** is a writer in San Antonio, Texas.



Individuals and organizations with their names inscribed on the Mars InSight lander received a commemorative "boarding pass."

Images: NASA/JPL

# Genetic Variance in Cystic Fibrosis

Deleted CCT nucleotide sequence results in a malfunctioning CFTR protein.

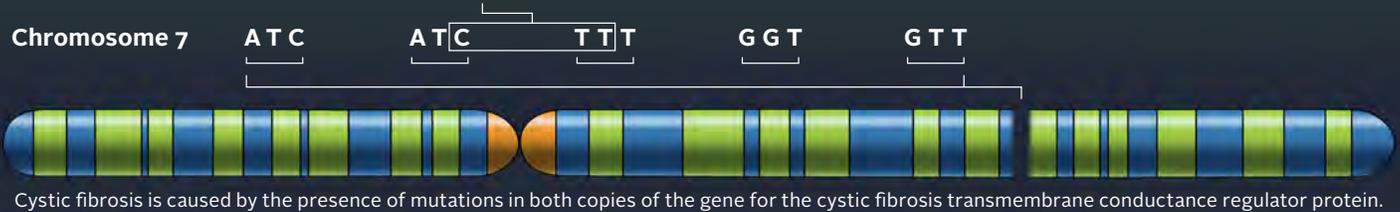


Illustration: Science Photo Library

## The Long Road to Effectively Treat CF

The genetic disease that we know today as cystic fibrosis (CF) has been recognized for centuries, with references found in medical texts dating to the late 1500s. Earlier suggestions of the disease go back to the Middle Ages, when a Germanic description of its symptoms was written as: “Wehe dem Kind, das beim Kuss auf die Stirn salzig schmeckt, es ist verhext und muss baldsterben” — “Woe to the child who tastes salty from a kiss on the brow, for he is hexed, and soon must die.” Saltiness was, in fact, the key that led to the development of the first test for the disease 60 years ago. Known simply as a “sweat test,” it remains the gold standard for confirming a diagnosis of CF.

The outlook for patients with CF has improved dramatically since those earlier times. In the 1950s, the median survival age for patients with CF was 2. By 1962, the predicted median survival was about 10 years, according to the National Institutes of Health. But today, with newborn screening to detect the disease early, mechanical therapy to loosen thickened mucus and help patients to expel it from their lungs, improved antibiotics, nutritional enhancement and digestive enzymes and a new classification of groundbreaking drugs that correct genetic mutations of the disease, the median survival age in the United States is 47 years old.

“With the advent of CFTR (cystic fibrosis transmembrane conductance regulator) therapy to treat the disease, we have seen a significant increase in the mean age of CF patients in the United States,” says pediatric pulmonologist Marlyn S. Woo, MD, director of the UCLA Mattel Children’s Hospital Cystic Fibrosis Center.

This new CFTR therapy, which is designed to correct the malfunctioning protein in the CF gene that regulates the flow of water and chloride in and out of cells in the lungs and other organs, has meant substantial improvement for 46 percent of CF patients with a specific genetic mutation. Because there are several variations in the mutation of the CF gene, the therapy currently is not beneficial for all patients. But researchers believe that a new triple-drug combination therapy that will be submitted to the U.S. Food and Drug Administration for approval this year offers hope for an effective therapy for 90 percent of CF patients.

“These are not ultimate cures — they can’t undo the damage that’s already been done — but they are very effective treatments for certain patients to keep the disease in check,” Dr. Woo says.

In addition, a recently developed process, called theratyping, to match medications with mutations will enable more patients with rare mutations to benefit from modulators.

When Dr. Woo first began working with CF patients, in the early 1980s, the median survival age was 14 years old, she says. “Really, the only thing we had to offer to them was albuterol. They were trying prednisone — which wasn’t doing much for those patients — and there was a powdered form of pancreatic enzyme. That was about it,” she says. “They had already started CF specialty care centers, but there just wasn’t much we could do for them other than try to feed them a lot to get their weight up and give them oral or intravenous antibiotics. Nothing at that point was effective in treating the disease itself.”

While greater emphasis on nutrition and improvements to methods for airway clearance were important steps forward, the game-changer in CF treatment was, Dr. Woo says, the advent in the late 1980s and early 1990s of CF-specific medications to thin accumulated mucus in the lungs and reduce the risk of infections. “If we look back on the history of cystic fibrosis, that, coupled with the development of antibiotic therapy and better pancreatic enzymes, has been the single biggest advance to significantly increase the lifespan of our patients and also to slow the progression of the disease,” she says.

With these medical advances and increases in life expectancy, CF no longer is limited to children. More than half of CF patients in the United States now are over the age of 21, and this population has specialized needs. At UCLA, the Adult Cystic Fibrosis Program is led by director Patricia H. Eshaghian, MD, and associate director David Sayah, MD, PhD; Dr. Sayah was Kathlyn Chassey’s physician when she was hospitalized at UCLA for her lung transplant.

Will there be a cure for CF? Dr. Woo believes one will come within the next 10 years. “It may not come about from correcting the protein or getting the protein to function; it may come from some other direction. But I believe that it will come,” she says. “We are very close.”

— David Greenwald



To view a webinar with Dr. Marlyn Woo explaining cystic fibrosis, click on the link to this article at: [uclahealth.org/u-magazine](https://www.uclahealth.org/u-magazine)

# Eat, Drink and

BY CLAIRE PANOSIAN DUNAVAN, MD

ILLUSTRATIONS BY RYO TAKEMASA

As much as we love to eat, sometimes the food we put in our mouths ferries microbes that can turn a pleasant meal into a horrifying experience of illness — or worse.

“Carol, oh my God, are you home? Pick up the phone! It’s about those berries you and Mark love. Oh well. Here’s what I heard on NPR. They have hepatitis! You should call Costco. Then text me, okay? I mean, who knew a virus could live in a freezer?!”

— Voicemail message, May 2013

Carol and Mark are retired lawyers who love wholesome, delicious food. They especially love smoothies. For a while, their favorite mauve quaff combined almond milk, protein powder, flaxseed, banana, mango and blueberries. Sixty seconds in the blender and, presto! Instant healthy goodness.

Then, in May 2013, the couple spied a bag of Townsend Farms Organic Antioxidant Blend at their local Costco. This enticing mix contained cherries, berries and pomegranate arils, the fleshy red seeds of the pomegranate fruit. The combo sounded great to my longtime UCLA patients, as they savored the thought of a bright, new breakfast taste.

“We didn’t read the fine print,” Carol acknowledges. (The couple’s full names have been withheld at their request.) “But it probably wouldn’t have stopped us.” Overlooked was the fact that, although packed in

Oregon, the frozen pomegranate seeds in the Townsend mix originated from Turkey.

Ten days later came news of the hepatitis outbreak. By then, the icy product had sickened dozens, while other consumers hovered on the brink of hep A’s infamous fevers, flu-like aches, clay-colored stool and glowing, yellow eyes. The next logical question — which ingredient had ferried the virus? — quickly focused on the tangy, red arils. Genetic typing clinched the case. The victims carried a strain of hepatitis A that normally circulates in the Middle East and North Africa. Aside from its pomegranate seeds, Townsend’s other fruits came from South America and Washington State. In June 2013, Townsend recalled all of its implicated lots.

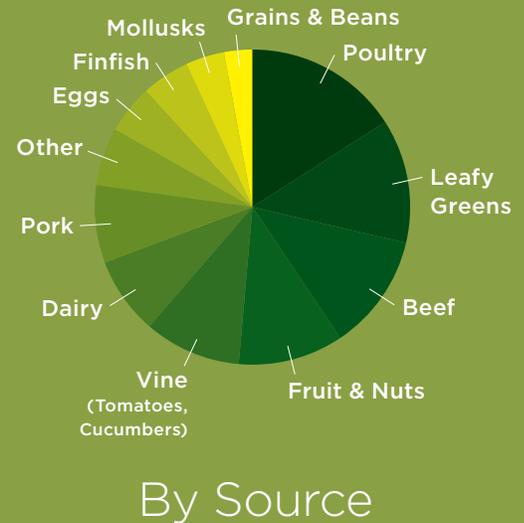
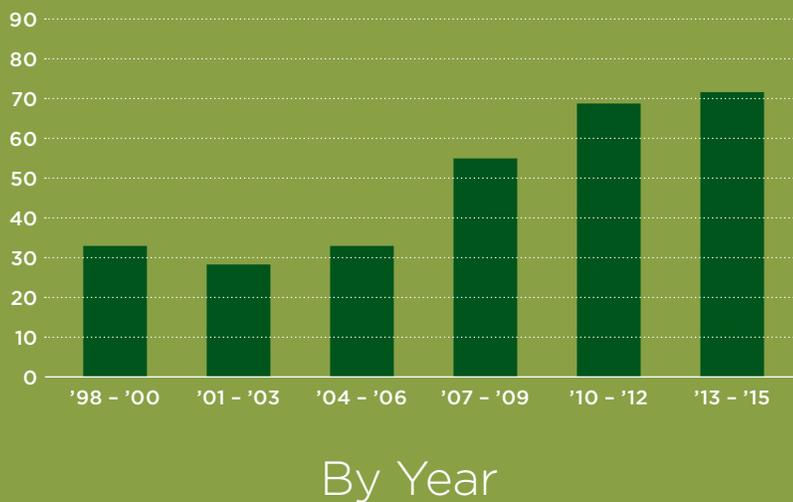
Some backstory: Hepatitis A enters through the mouth, travels to the gut, attacks the liver and passes in stool, at which point it can easily taint water or food. And it is hardy. Hardy, in fact, barely begins to describe the virus’s RNA swirl encased in an icosahedral protein shell. Once in a kitchen, it can live for weeks. It also can tolerate freezing for months. Over decades, if not centuries, food tainted by hep A has infected millions upon millions of people in localized clusters.



# nd Be Wary



# U.S. Foodborne Outbreaks



Graphics: U.S. Centers for Disease Control and Prevention

“In today’s age of high-speed global transport, infected edibles are no longer limited to specific locales. They are pushing the envelope of their reach.”

But in today’s age of high-speed global transport, infected edibles are no longer limited to specific locales. They are pushing the envelope of their reach, as shown by the following examples of hep A contamination: semi-dried tomatoes sullied in Turkey and eaten in Australia; strawberries frozen in Egypt and then flown to Europe; dehydrated berries of uncertain provenance — Poland? Bulgaria? Authorities still are not sure — dotting a Scandinavian cake mix; and, of course, the frozen arils from Turkey’s Goknur Foodstuffs that were later sold at Costco. Although we’ll never know the full toll of illness and pain, according to the U.S. Centers for Disease Control and Prevention (CDC), Goknur’s glistening, red cubes spawned four times as many infections as our country’s largest hepatitis A outbreak of the previous decade — 35 people sickened by Gulf Coast oysters in 2005. In contrast, 165 people in 10 states became ill from the tainted pomegranate seeds; 69 were hospitalized, two with fulminant infections and one who required an emergency liver transplant. To its credit, Costco quickly notified a quarter-of-a-million buyers about the outbreak, setting a new bar for public-private teamwork to stop a foodborne fiasco dead in its tracks. Some who sampled the berries returned to Costco for post-exposure hep A vaccines. Carol and Mark also got jabbed, thus dodging an ominous bullet. For weeks after, however, they continued to marvel at a hazard they had never before considered,

much less expected to find in a frosty bag of fruit at their favorite store.

**MODERN FOOD SAFETY IS A GIANT MACHINE** with many moving parts and unsung heroes. For starters, consider “traceback,” the process that ultimately nailed the culprit in Townsend’s tainted fruit. Often likened to a painstaking puzzle involving invoices, lot numbers and bills of lading, traceback may also trigger specialized tests performed under furious pressure. At the height of the pomegranate scare, for example, several CDC techs spent Memorial Day pegging the outbreak’s 1B viral genotype.

Achieving modern food safety also requires front-line clinicians, who, when confronted with troubling symptoms, “think” foodborne infection and then order appropriate tests.

Although diagnosing hepatitis A requires bloodwork, most foodborne foes lurk in stool. Which leads to another modern twist. Once the sine qua non of enteric detection, cultures are no longer the only Sherlock Holmes-ian path to unmasking villains like norovirus, *Salmonella*, *Campylobacter* and *E. coli* 0157:H7, the toxin-bearing bug that first made headlines when fast-food hamburgers sickened hundreds in the 1990s. Today, rapid molecular tests also can identify these and other perps in 60 minutes flat.

To David A. Bruckner, Sc.D., professor emeritus of pathology and laboratory medicine and of microbiology and immunology, the new “multiplex” tests equal a stunning advance. The former COO of UCLA’s clinical labs, Dr. Bruckner still works three days a week at Olive View-UCLA Medical Center and UCLA’s microbiology hub in Brentwood.



“When you looked at what the [stool] panels offered, it was so extensive, it blew your mind away,” says the veteran microbiologist, recalling his initial reaction to the cutting-edge assays. “I began to think about all the things we previously couldn’t culture or for which we depended on a physician’s clinical judgment to diagnose. Now we can pinpoint the cause of a lot more infections.”

UCLA Health and Olive View introduced multiplex tests in 2017. According to Dr. Bruckner, they’ve proved especially useful in Olive View’s busy ER or when trying to link a group of sufferers to a shared exposure. “With this kind of laboratory diagnostic,” he explains, “information goes to public health so fast, they can track things much more quickly than before.”

**PREVENTION, RATHER THAN DIAGNOSIS, REMAINS THE HOLY GRAIL** — especially since every year, one-in-six Americans still suffers a foodborne blight. Now picture the infections’ most vulnerable targets — the “canaries in the coal mine,” if you will: folks whose immune systems are hobbled by anti-rejection drugs for transplanted organs or by hefty doses of steroids or treatments for cancer. Theoretically, even acid-fighting pills heighten one’s risk. As a result, ensuring the safety of every meal that is served in UCLA’s hospitals — both in patients’ rooms and in cafeterias — is a serious job. At UCLA, that mandate falls to Patti Oliver, RDN, MBA, UCLA Health’s long-time director of nutrition services. Oliver not only supervises 300 employees who produce 10,000 meals a day, but also in 2017 she won a major tribute — the “Silver Plate Award” from the International Foodservice Manufacturers

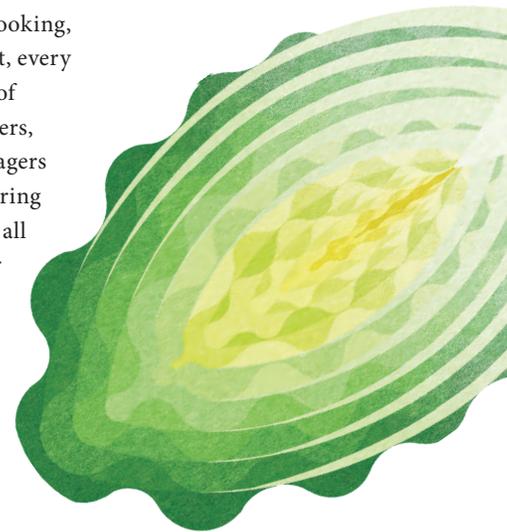
Association — for her commitment to wellness, sustainability and UCLA’s “Signature Dining,” which often wins exclamations of “Wow! This is not your usual hospital food!” from both patients and visitors.

When Oliver first trained as a dietitian, there were gaps in knowledge and practice. “Back then, we had food science and food management classes, but they barely touched on food safety,” Oliver says, as Medicare inspectors conduct a routine, unannounced audit just yards from her office. “Looking back, if I knew the responsibility [I would someday shoulder], it might have scared me off. Then, as the process became more regulated and surveys became more and more brutal, my thought was: ‘Poor me, why is this happening?’ But now I’m glad. Because the truth is, the worst thing that can happen is a foodborne outbreak. So, yes, it’s a lot of work, and sometimes it’s tiresome, and you only have X amount of resources, but food safety and patient safety remain our highest priorities,” she says.

Here’s a snapshot of Oliver’s daily operation. In addition to receiving and storing food, cooking, serving and cleaning, some of her staff must, every two hours, check and log the temperatures of dish-washing machines, refrigerators, freezers, hot food, salad bars and blast chillers. Managers regularly inspect the dining commons, catering kitchens and meal service to patients. Finally, all of Oliver’s staff are constantly refreshing their food-safety knowledge.

“When we hire them, every employee has to verbalize that he or she cannot come to work with certain symptoms or diagnoses: vomiting, diarrhea, jaundice, sore throat, fever or infected burns or cuts,” she says.

“But now I’m glad. Because the truth is, the worst thing that can happen is a foodborne outbreak. So, yes, it’s a lot of work, and sometimes it’s tiresome, and you only have X amount of resources, but food safety and patient safety remain our highest priorities.”



**Left:** Dr. David A. Bruckner, professor emeritus of pathology and laboratory medicine and of microbiology and immunology. **Center:** Patti Oliver, director of UCLA Health’s nutrition services. **Right:** Dr. Daniel Uslan, associate clinical chief of UCLA’s Adult Division of Infectious Diseases.

Photo: Jessica Pons



Kirsten Milazo Nolan, outside her family's market in San Gabriel, California, has had two kidney transplants following a life-threatening infection. Now she must be cautious about what she eats to avoid the possibility of a foodborne illness.

Photo: Jessica Pons

“Most people are aware of active foodborne outbreaks ... . Not a month goes by when something isn’t brewing somewhere, and most of those events get pretty good media attention. On the other hand, what’s not on many people’s radar is the potential — perhaps unquantifiable — for transmission of antibiotic-resistant bacteria through food.”

“For audits, they also have to know the names and symptoms of bugs like *Salmonella*, norovirus and hepatitis A.” Oliver concluded by describing her department’s monthly infection-control rounds, which involve five teams touring every nook and cranny of the food service domain and recording their findings. In short, it is a continuous cycle of monitoring, evaluation and improvement.

**DANIEL Z. USLAN, MD, LOVES DIVERSE CUISINE, BUT HE ALSO KNOWS ITS RISKS.**

Several years ago, Dr. Uslan, associate clinical chief of UCLA’s Adult Division of Infectious Diseases, voiced concern about drug-resistant bacteria in modern farm-to-fork chains. Not long after, a *Los Angeles Times* headline — “UCLA hospitals serve antibiotic-free meat in fight against superbugs” — marked Oliver’s response. At the school of medicine’s Café Med courtyard, Dr. Uslan recounts the story.

“Most people are aware of active foodborne outbreaks — *E. coli* in sprouts, *Salmonella* in chicken or whatever the latest problem is,” he says. “Not a month goes by when something isn’t brewing somewhere, and most of those events get pretty good media attention. On the other hand, what’s not on many people’s radar is the potential — perhaps unquantifiable — for transmission of antibiotic-resistant bacteria through food.

“So, back in 2014, when the cafeteria got rid of trans fats and fried foods — French fries, chicken fingers, things like that — at one point I said to Patti:

‘You know, if we’re really trying to promote healthy eating, and we’re a responsible organization, we should be purchasing antibiotic-free meat and poultry.’”

“Much to my surprise and appreciation—and despite the increased cost—she agreed! Four years later, I still believe we made the right decision, not just for public health, but for moral reasons as well.”

Of course, Oliver and Dr. Uslan both know that UCLA’s stand is partly symbolic. What happens in a hospital doesn’t address the larger problem, namely that the U.S. overuses antibiotics in farms and feedlots. But, for now, targeting drug-resistant flora in food can still advance health, Dr. Uslan says. “Even if they’re not making us sick today,” he warns, “in the future, if we’re ill or immunosuppressed or taking other antibiotics, those silent, resistant bacteria in our intestines can suddenly flare and cause us harm.”

A final chilling statistic: Each year, the CDC estimates, 400,000 Americans are sickened by antibiotic-resistant bugs in food. This represents one-fifth of our nation’s annual toll of serious drug-resistant infections.

**ON A FOUR-LANE BOULEVARD IN SAN GABRIEL,**

nestled among stucco and ranch-style houses, an occasional picket fence and palms, oleanders and pines, there’s a family-run market, Howie’s, that has been a staple of the community since the 1950s and still evokes the feel of a bygone era. Today, its owners are Mike and Denise Milazo. In 1994, the Milazos’s teenage daughter Kirsten was traveling through the California Low Desert when she suddenly felt hot. Her sudden illness soon spiraled into meningococcal sepsis, one of the most deadly infections in the world. For her first two weeks in the ICU of a Palm Springs hospital, she was put into a medically induced coma, placed on a ventilator and underwent dialysis. Three months later, surgeons had amputated Kirsten’s right leg below the knee; she also had lost all of her remaining digits with the exception of two stump-like thumbs; and, worst of all, her kidneys still were not working. The following year, she received her first kidney transplant, with an organ donated by her mother. Twenty years later, she received a second transplant, from her father.

Today, Kirsten Milazo Nolan is a vibrant and conversational woman. When I spoke with her at Howie’s, where she is co-manager, she wore black sneakers, khaki pants, an embroidered Mexican top and a beautiful diamond ring on a chain around

her neck. “Transplant dietitians barely existed the first time around,” she recalls. “But with the second transplant, at UCLA, they were very specific. No sushi, no raw fish. No sliced turkey or processed deli meats.” During the first few months after her second transplant, when the risk of infection is highest, Kirsten also eliminated fresh produce, a special hardship in light of her love of “luscious green vegetables.”

“In the hospital, transplant patients cannot eat salads because our guidelines dictate a ‘low bacteria diet,’” Patti Oliver had told me, and her comment echoed in my head. “Even their bread comes in pre-packaged, individual servings.”

But, paradoxically, Milazo Nolan relished her early post-op meals at UCLA. “I was so happy to add things [to my diet],” she says, referring, in particular, to peanut butter and cooked broccoli, foods she had eliminated while on dialysis. On the other hand, Milazo Nolan was quickly brought to her feet when a hospital dietitian admonished against the natural aloe vera juice she was privately sipping for severe, post-transplant heartburn. Now that she’s largely back on her usual fare, the grocery maven, who loves finding “new and exciting products” for customers at Howie’s, often discusses food with a long-time friend who is also post-transplant. “We go back and forth about certain things we can and cannot eat,” she says. “When either of us gets a sick stomach, it’s like, ‘What were you eating? What did you do?’”

This illustrates the ongoing challenge of counseling transplant patients about how to eat “safely,” not just for a while, but for the rest of their lives. Even for an infectious diseases or public health specialist, predicting the next food that will harbor an occult infectious threat is far from easy. In 2011, for example, there was a 28-state conflagration in which 147 people were seriously harmed, and 33 died after eating cantaloupe contaminated with *Listeria monocytogenes*, a ubiquitous, damp-loving bacterium that had never before laced a melon’s rind. Moreover, almost 90 percent of the people who were affected were in some way immunosuppressed, according to a study later published in *The New England Journal of Medicine*. Today, UCLA Health’s food service workers wash all whole cantaloupes under running water before they are cut up to be served.

“Do transplant patients need more education around their heightened risk of serious foodborne illness?” I ask Dr. Uslan. “The care of transplant

patients requires so much,” he says. “There’s all the pharmacy issues with medications and drug interactions. There’s surgical issues — everything from post-op wound care to complications. And then there’s travel. Not surprisingly, if you’ve got people who’ve been chained to a dialysis machine who can suddenly take a cruise, they’re going to do it!

“But, yes, especially living in a cosmopolitan place like Southern California, I worry that some transplant patients are just going out and eating without being aware of potential risks. While I don’t want people to live in fear, I think we could all do a lot more teaching about what’s safe and appropriate and what’s not.”

Who wouldn’t second that motion? At the same time, perhaps all of us — not just transplant recipients and other, extra-vulnerable people — should learn from modern foodborne outbreaks that regularly splash across the media. In 2018, first there was *E. coli* 0157:H7 in romaine lettuce from Yuma, Arizona, and then again from California’s Central Coast; *Cyclospora* in McDonald’s salads and Del Monte vegetable trays; *Salmonella* in Jimmy John’s sprouts, Fareway chicken salad, Rose Acre shell eggs and Kellogg’s Honey Smacks cereal; *Vibrio parahaemolyticus* — a kinder, gentler relative of cholera — in imported crab from Venezuela. And the list goes on.

In 2018, frozen foods also made the list: frozen vegetables laced with *Listeria* were in more than 100 countries, including the U.S. and Canada. The tracebacks and recalls were daunting. And so, as an infectious diseases professional, I have some simple advice. When making Kermit-colored smoothies, do not toss uncooked frozen veggies into your blender. Greenyard International (the manufacturer of the frozen *Listeria*-tainted fare) advises heating their edibles to 160 degrees Fahrenheit and then cooking them for another couple of minutes. The same amount of boiling also will quash unseen viral invaders in other manufacturers’ frozen vegetables and fruit — with or without juicy and tart pomegranate arils.

**Dr. Claire Panosian Dunavan** is an infectious diseases specialist, a clinical professor of medicine (recalled) in the David Geffen School of Medicine at UCLA and a medical journalist. Her writing has been published in the Los Angeles Times, The New York Times, The Washington Post, Discover magazine and Scientific American, among others. She currently is writing a book about modern foodborne infections.

“I worry that some transplant patients are just going out and eating without being aware of potential risks. While I don’t want people to live in fear, I think we could all do a lot more teaching about what’s safe and appropriate and what’s not.”



## The Doctor & the Refugee

By Robin Keats



When a surgeon from Nicaragua fled her strife-torn country, Dr. Nathan Samras and his family opened their home to her.

Photo: Jessica Pons

When his phone rang this past spring and Nathan Samras, MD, MPH, heard the voice on the other end of the line, it took him by surprise. “Hey,” the caller said. “I’m in Miami.”

Miami? “What on earth?” wondered Dr. Samras, assistant professor of pediatrics and internal medicine. Why was the caller in Miami?

The answer stunned him: The caller, a young surgeon from Nicaragua, whom Dr. Samras had met the previous year while on a medical mission, had fled from her politically torn country after a gunman confronted her on the street, pressed a pistol to her chest and threatened that he would return the next day to kill her. Less than 24 hours later, she boarded a plane. Now she was in the United States with little more than a suitcase, a six-month tourist visa and the phone number for Dr. Samras, one of the few people she knew in the country.

“I just saw her the month before when I was there for the Nicaragua Global Health Project” — a non-governmental organization (NGO) that he

established in 2016 to help provide medical services to the country’s poor — Dr. Samras says. “I knew there had been protests against the government and the deteriorating economic situation in the country, but it never occurred to me that she might be caught up in the violence.”

Maria — her real name is being withheld out of ongoing concern for her safety — had, indeed, become a target of her country’s leadership after she tended to the injuries of students who were hurt during anti-government protests.

What was Dr. Samras to do? Maria was able to stay for a few weeks with acquaintances in Virginia and Texas, but she soon exhausted her housing options. And, so, Dr. Samras opened his home to her. “‘Of course we have to help her,’ my wife said. She and my kids have been amazing. They had no second thoughts about how having such a guest would affect all of our lives. She went from being someone on the run to becoming a welcomed and beloved member of my family. My kids call her ‘Auntie.’”

### IT DID NOT START OFF EASY WHEN DR. SAMRAS AND MARIA first met, in 2017.

She was suspicious of him and his motives. “I had prejudices,” Maria says. In addition to teaching at a medical school, she ran several clinics, and she had “experienced others who came to Nicaragua wanting to help and then took advantage.” They took pictures of the clinics, made promises, raised money and then, she says, “kept all or most of it.”

“I was not kind,” Maria says. “I said to him, ‘You are a gringo. You have money. Your life is quiet and safe. Why are you here?’ I told him about the bad experiences with other people, but he answered me directly, and I saw his eyes. Little by little, I learned to trust him. And now he is a great friend.”

Nicaragua is not Samras’s first experience in a developing country. After graduating with a degree in biomedical engineering from Duke University, he spent two years with the Peace Corps in Malawi, in southeast Africa. He remained in Malawi after his Peace Corps commitment for another two years to

work with several NGOs. It was there, working on a number of community health projects, that he became interested in medicine. After returning to the U.S., he earned his MD from Rutgers Robert Wood Johnson Medical School.

Dr. Samras's Nicaragua Global Health Project brings teams of medical student volunteers to assist in Nicaraguan clinics and hospitals. His most recent initiative has been to collect and distribute used but still-working ultrasound equipment. He was working with Maria on that project when she was forced to flee.

In addition to providing her with shelter, Dr. Samras, along with colleagues at UCLA, have explored other ways to assist her, including helping her to find legal representation to file a claim for asylum in the U.S. She filed her claim just as the issue of Central American asylum-seekers was boiling over. "It couldn't have been a worse time to be seeking political asylum," Dr. Samras says. With time running out on her visa, Maria tried to stay positive that she would be allowed to remain.

"She was very nervous and worried about it," Dr. Samras says. "But resilience is a quality that she has in spades, and, with the grace of God and her very strong faith, she has been optimistic that she will be able to achieve her goals."

That faith was borne out in December, when Maria received word that her petition for asylum had been granted. Now that she has legal status, Dr. Samras is trying to assist her to find work and a more permanent living situation. While she cannot practice as a physician in the U.S. until she receives supplemental training and takes additional licensing exams, she could work in other medical capacities.

"When I become a doctor here, I will work to help as many people as I can," Maria says. "This is the purpose of my life; it is what God wants of me. And when things change in my country, I will go back to help my people there."

**Robin Keats** is a freelance writer in Los Angeles.



To learn more about the Nicaragua Global Health Project, go to: [nicaraguaglobalhealth.org](http://nicaraguaglobalhealth.org)



**Top:** Dr. Nathan Samras visits patients at home in Tolo Province, in the south of Nicaragua, to assist local physicians in providing care to their community. **Bottom:** Participants in Dr. Samras's Nicaragua Global Health Project work closely with local doctors in the northern city of Jinotega to provide expert assistance in government-run hospitals.

Photos: Courtesy of Dr. Nathan Samras

## Awards & Honors

**Dr. Patricia Ganz (MD '73, RES '76)**, director of cancer prevention and control research at the UCLA Jonsson Comprehensive Cancer Center, received the clinical research award from the Association of Community Cancer Centers.

**Dr. Andrew Goldstein (PhD '11)**, assistant professor of molecular, cell and developmental biology and urology and a member of the UCLA Broad Stem Cell Research Center and the UCLA Jonsson Comprehensive Cancer Center, received the Giants of Science Hope Award from the American Cancer Society.

**Dr. Wayne Grody (RES '87, FEL '86)**, professor of pathology and laboratory medicine, pediatric genetics and human genetics, was selected as a 2018 fellow of the American Association for the Advancement of Science.

**Dr. Weizhe Hong**, assistant professor of biological chemistry and neurobiology, was awarded a 2018 Packard Fellowship for Science and Engineering for 2018.

**Dr. Baljit Khakh**, professor of physiology and neurobiology, was named a 2018 Allen Distinguished Investigator by the Allen Institute.

**Dr. Amar Kishan (RES '17)**, assistant professor of radiation oncology and a member of the UCLA Jonsson Comprehensive Cancer Center, was awarded the 2018 Publication Award from the Radiation Oncology Institute.

**Dr. Carla Koehler**, professor of chemistry and biochemistry and a member of the UCLA Jonsson Comprehensive Cancer Center and the UCLA Brain Research Institute, was selected as a 2018 fellow of the American Association for the Advancement of Science.

**Dr. Patricia Lester (FEL '00)**, professor of psychiatry and biobehavioral sciences, received the 2018 Irving Phillips Award for Prevention from the American Academy of Child and Adolescent Psychiatry.

**Dr. Linda M. Liaw (RES '97, FEL '98, PhD '99)**, chair of the Department of Neurosurgery, was elected to the National Academy of Medicine.

**Thomas C. McNamara, MD**, professor emeritus of radiological sciences, received the Society of Interventional Radiology Foundation Leaders in Innovation Award.

**Dr. William L. Oppenheim (FEL '79)**, director of the UCLA Center for Cerebral Palsy in the Department of Orthopaedic Surgery, received the Distinguished Service Award from the American Academy of Pediatrics Section on Orthopaedics.

**Dr. Hans David Ulmert**, assistant professor-in-residence of molecular and medical pharmacology and a member of the UCLA Jonsson Comprehensive Cancer Center, received the Young Investigator Award from the Society for Basic Urologic Research.

**Dr. Kenneth Wells**, David Weil Professor of Psychiatry and Biobehavioral Sciences, received the 2018 Rhoda and Bernard Sarnat International Prize in Mental Health from the National Academy of Medicine.

## In Memoriam

**Dr. James D. Collins (RES '68)**, professor of radiology, died on December 21, 2018. He was 87 years old. Dr. Collins was on faculty at UCLA since completing his residency. As an undergraduate at UCLA, Dr. Collins played on the football team. After serving in the U.S. Army, he received his master's in zoology from UCLA. Dr. Collins was among the first clinicians in the UCLA Department of Radiology to perform such procedures as lymphangiograms and image-guided biopsies, and he was among the first to introduce ultrasound to the department.



(From left) Drs. Kevin Slavin (MD '93); Brad Bohnert (MD '93); George Garcia (MD '93); Gigi Nickas (MD '93); Vena Ricketts (MD '76), chair of the Reunion Planning Committee; Gelareh Gabayan (MD '04), member of the planning committee; and Alan Chan (MD '93) celebrate at a reunion event.

Photos: Rich Schmitt Photography

## The Big Weekend

This fall, alumni from as far away as India returned to Westwood to celebrate the inaugural Alumni Reunion Weekend with the classes of '58, '68, '78, '88, '93 (celebrating its 25-year reunion; the Class of '98 held its own reunion in June) and '08. The last time the David Geffen School of Medicine at UCLA and the Medical Alumni Association (MAA) held a large-scale all-class-style reunion was in August 2011, during the medical school's 60th anniversary. However, increasing use of digital communications and social media resulted in a slump in attendance at subsequent reunion events, which became less frequent.

But outreach to the MAA board of directors and to alumni demonstrated that there still was a desire to hold such expansive reunions. Dana Schmitz, alumni affairs director, and MAA

reunion committee board members Vena Ricketts, MD '76, and Gelareh Gabayan, MD '04, set out to revive the tradition. The resulting Alumni Reunion Weekend took place over the weekend of October 12, 2018.

Sonia Krishna, MD '08 (RES '11, FEL '13), and her husband Vamsi Krishna, MD (RES '10), came from Austin, Texas, to attend the weekend. Not only did Dr. Krishna and her husband spend time bonding with her fellow classmates, but they also established relationships and potential mentorships with alumni from other classes. "I hope more young alumni get involved in events to deepen our networks for school of medicine graduates from UCLA," Dr. Krishna says.

"The reunion has led to some new professional and personal connections that I hope to continue," adds Deborah Lehman, MD '88,

assistant dean for student affairs. She credits her experiences at UCLA for enriching her education, career trajectory — and even her personal life. “I met my husband (Marc Wishingrad, MD ’89) in medical school!” she says.

### While medical school and residency sweethearts

gathered with fellow MAA members, several alumni recruited their entire families to join them for the weekend. Second-year medical student Benjamin Kartub pitched in to guide a tour of Geffen Hall and the Center for the Health Sciences for his father-in-law Guy Mayeda, MD ’88, and Dr. Mayeda’s former classmates. “I hope Ben has as many memorable experiences at UCLA and leaves with as many lifelong friends as I did 30 years ago,” Dr. Mayeda says. “It was a fun and proud experience for our entire family to have Ben lead the tour of the medical school for our group. How often does that opportunity occur for a UCLA MD alum!”

Looping in yet another generation of Bruins, Robert Harway, MD ’58, brought along his grandson and current UCLA undergraduate Robert Sada for the medical school tour, and he later accompanied Sada’s roommate on piano during the Saturday night jazz quartet.

Feedback from the weekend was positive, boding well for future events. “Our goal is quite simple: to continuously increase and deepen our engagement with our amazing alumni community,” says Clarence Braddock III, MD, vice dean for education. “Bringing back Alumni Weekend was a fabulous example of a meaningful way to bring our alumni together, both to revisit the best of their experiences here and to re-introduce them to our school, our leadership, and our mission. It was so wonderful to meet alumni from so many years and a privilege to bear witness to the joy they experienced reconnecting with classmates and colleagues.”



Dr. Robert Harway (MD '58) looks back at his class composite photo.



**The next Alumni Reunion Weekend is scheduled for October 11-13, 2019, for the classes of '59, '69, '79, '89, '94 (25th year), '99 and '09. Registration information will be released to the Alumni Affairs website in spring of 2019.**

## In Memoriam



The David Geffen School of Medicine at UCLA posthumously awarded the MD degree to Dr. John C. Loh, who is remembered with a memorial plaque in Switzer Plaza.

Photo: Ann Johansson

## Remembering a Special Student and Friend

**John C. Loh (MD '14)** was a fourth-year student in the David Geffen School of Medicine at UCLA at the time of his death in the spring of 2014. To fellow students who knew him as a colleague, he was a bright, inquisitive and motivated medical student. To those who knew Dr. Loh as a friend, he was a thoughtful, honest, proud, strong-willed and kind young man.

Dr. Loh was born and raised in Houston, Texas, and as an undergraduate, he attended Stanford University, where he received the Wallace Sterling Award for Scholastic Achievement, one of the university’s highest honors. Before graduating with his bachelor of science degree in biology, he co-authored three peer-reviewed publications; he wrote another four while in medical school at UCLA.

The David Geffen School of Medicine at UCLA posthumously awarded him the Doctor of Medicine degree, acknowledging Dr. Loh’s dream to become a physician. The Regents of the University of California has created an endowed scholarship in his name, the John C. Loh Memorial Scholarship. It will support students who demonstrate exemplary commitment to peer mentorship. As an enduring reminder of who Dr. Loh was and what he stood for, the school has placed a memorial plaque in Switzer Plaza.

# Innovation and Courage Honored at UCLA Visionary Ball

The **2018 Visionary Ball**, benefiting the UCLA Department of Neurosurgery, was held on October 18, 2018, at the Beverly Hilton Hotel to raise crucial funds for complex neurological diseases. Co-chaired by longtime UCLA Department of Neurosurgery supporters Susan Dolgen and honoree Edie Baskin Bronson, the evening was emceed by *Extra*'s Tanika Ray and featured award presentations and a performance by singer/songwriter Natasha Bedingfield.

Actor and author Rob Lowe was presented with the Icon Award by a surprise guest, actor Chris Pratt. Lowe's career spans four decades in film, television and theater, including winning two Screen Actors Guild Awards and being nominated for two Emmy Awards and six Golden Globe Awards. He currently stars in and directs *The Bad Seed*.

Dr. John C. Mazziotta (RES '81, FEL '83), vice chancellor for UCLA Health Sciences and CEO of UCLA Health, was honored with the Medical Visionary Award, presented by Dr. Linda M. Liau (RES '97, FEL '98, PhD '99), chair of the UCLA Department of Neurosurgery and W. Eugene Stern Chair in Neurosurgery. Dr. Mazziotta previously served as associate vice chancellor for health sciences and executive vice dean of the David Geffen School of Medicine at UCLA, chair of the UCLA Department of Neurology and founder and director of the UCLA Ahmanson-Lovelace Brain Mapping Center.

The Visionary Award, presented by "Doc" Rivers, head coach of the Los Angeles Clippers, went to Edie and Skip Bronson. Edie Baskin Bronson's original, hand-tinted portraits of NBC's *Saturday Night Live* guest hosts and title sequences established the show's signature graphic style and garnered an Emmy Award for her work on the *Saturday Night Live 40th Anniversary Special*. Skip Bronson, chairman of the real estate development and advisory firm The Bronson Companies, is a member of the UCLA Neurosurgery Board of Advisors. He is a frequent guest on CNN, CNBC, MSNBC and Bloomberg TV and is the author of *The War at the Shore*.

UCLA alumnus Brian Lee also received the Visionary Award, presented by attorney and fellow Bruin Robert Shapiro. Lee co-founded and serves as managing director of the venture capital firm BAM Ventures. He also co-founded The Honest Company,



Honoree Rob Lowe (left) and Chris Pratt.

LegalZoom and ShoeDazzle. Lee received his JD from the UCLA School of Law.

Dr. Felice L. Loverso, CEO and president of Casa Colina Hospital and Centers for Healthcare, was honored for his leadership of Casa Colina with the Luminary Award, presented by UCLA Neurosurgery Board of Advisors member Tina Odjaghian and Dr. Nader Pouratian (PhD '01, MD '03), UCLA vice chair of academic affairs. Dr. Loverso spoke about the long-standing partnership between UCLA neurosurgery and Casa Colina and shared a moving story about his own experience as a UCLA patient.



For more information, contact Samantha Lang at:  
310-351-9806



**Top Left:** Dr. Linda Liou (left) with honoree Brian Lee. **Top Right:** (From left): Visionary Ball Co-chair Susan Dolgen, Rob Lowe, LA Clippers Head Coach Doc Rivers, Visionary Ball co-chair and honoree Edie Baskin Bronson and honoree Skip Bronson. **Middle Left:** (From left): Honoree Dr. John C. Mazziotta, Sharon Shelton and Renee and Meyer Lusk. **Middle Right:** (From left): Henry and Arline Gluck and Laurie and Steven Gordon. **Bottom Left:** (From left): Susan Dolgen, Dr. Mazziotta and UC Regent Sherry Lansing. **Bottom Right** (From left): Dr. Liou (left) with honoree Dr. Felice Loverso.

Photos: Vince Buccia

# \$10 Million Gift Advances Programs in Women's Health



**Left:** (From left): Iris Cantor, UCLA Chancellor Gene D. Block and Dr. Kelsey C. Martin. **Center:** Cantor (left) and Ryan Fisher, executive director of the Iris & B. Gerald Cantor Foundation. **Right:** Cantor (left) and Dr. Janet Pregler, director of the Iris Cantor-UCLA Women's Health Center.

Photos: Reed Hutchinson

**Iris Cantor**, a longtime UCLA donor and a champion of women's health, has made a \$10 million commitment to the David Geffen School of Medicine at UCLA. Of this visionary gift, \$8 million will advance the training and education of generations of clinicians and scientists in women's health care; \$2 million will create the Iris Cantor Endowed Chair in Women's Health, an administrative chair to be held by the director of the Iris Cantor-UCLA Women's Health Center, currently Dr. Janet Pregler. To leverage the power of her gift, Cantor challenged the center's Executive Advisory Board to raise an additional \$2 million for the chair. The board's successful endeavor brought the total endowment to \$4 million.

UCLA Chancellor Gene D. Block and Dr. Kelsey C. Martin, dean of the David Geffen School of Medicine at UCLA and Gerald S. Levey, M.D., Endowed Chair, honored Cantor on September 27, 2018, at a reception in Geffen Hall. In recognition of Cantor's philanthropy, UCLA named the Iris Cantor Auditorium, located on Level 1 of Geffen Hall, and unveiled the signage commemorating the newly named auditorium.

"Iris Cantor's profound contributions to women's health have strengthened UCLA's medical enterprise by allowing us to help improve the health of thousands of women," Chancellor Block said.

"We are grateful for her vision and support that have helped make UCLA a leader in providing this critical care all across the region."

Cantor has provided funding for three pioneering centers at UCLA to serve women: the Iris Cantor Center for Breast Imaging; the Iris Cantor-UCLA Women's Health Center, one of the first comprehensive women's health centers in the nation; and the Iris Cantor-UCLA Women's Health Education and Research Center, which supports community outreach programs.

"Thanks to Iris, generations of women have been empowered to take command of their health and get involved," Dr. Martin said. "I believe we can safely say that Iris's philanthropy reflects her passion and her ability to motivate others to take up the cause."

"This gift is an indelible and lasting tribute to my commitment to health care, and in this instance, women's health care training, discovery and healing," Cantor said. "It will provide inspiration for researchers and clinicians, as well as hope and healing for women globally."



For more information, contact Gina Weitzel at: 310-267-2112

# Celebrating the 10th Anniversary of Ronald Reagan UCLA Medical Center

The **UCLA Health System Board** convened for its annual meeting on October 10, 2018, and marked the evening by celebrating the 10th anniversary of Ronald Reagan UCLA Medical Center. The event was hosted by Dr. John C. Mazziotta (RES '81, FEL '83), vice chancellor for UCLA Health Sciences and CEO of UCLA Health; Johnese Spisso, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor of UCLA Health Sciences; and Henry Gluck, chairman of the UCLA Health System Board. The program kicked off with remarks by special guest speaker Vin Scully, legendary sportscaster and UCLA Health System Board member.

The program featured two faculty members who represent the medical institution's commitment to innovation. Dr. Dennis J. Slamon (FEL '82), chief of the Division of Hematology/Oncology, director of Clinical/Translational Research, director of the Revlon/UCLA Women's Cancer Research Program and Bowyer Professor of Medical Oncology, talked about his groundbreaking research, both past and present, and his lifelong goal to cure breast cancer. Dr. Ronald W. Busuttil (RES '77), executive chairman of the UCLA Department of Surgery, chief of the Division of Liver and



**Top:** (From left): Arline and Henry Gluck, Johnese Spisso, Richard Azar and Dr. John Mazziotta with the birthday cake celebrating the medical center's 10 years. **Bottom:** (From left): Dr. Kelsey C. Martin, dean of the David Geffen School of Medicine at UCLA and Gerald S. Levey, M.D., Endowed Chair; Johnese Spisso; UCLA Chancellor Gene D. Block; Los Angeles County Supervisor Mark Ridley-Thomas; Dr. Mazziotta; and Gluck.

Photos: Vince Bucci, Mike Baker/Board of Supervisors

**Row 1 Left:** Special guest speaker Vin Scully. **Row 1 Right:** Health System Board member Dina Leeds and a member of the PAC program. **Row 2 Left:** (From left) Patients Matt and Tiffany Nord with their children (front row from left) Sophie-Joy and Isaac Nord; Dr. Ronald W. Busuttil and wife Jo Ann Busuttil. **Row 2 Right:** Tracy Davis (left) and Erwin Raphael with the UCLA Mobile Stroke Unit. **Row 3 Left:** Jeff Hyland (left) and Bob Knutson. **Row 3 Center:** Susan Horan Fleischer (left) and Kathrine Baumann with PAC miniature therapy horse Blue Moon. **Row 3 Right:** Ken Moelis (left) and Meyer Luskin. **Row 4:** (From left): Brad Friedmutter, Larry Woolf, Kim Friedmutter and Johnese Spisso.

Photos: Vince Bucci, Jessie Cowan

Pancreas Transplantation and William P. Longmire Jr., Chair in Surgery, spoke about the world-renowned transplant program he has pioneered at UCLA. Some of his past patients surprised guests by joining him on stage. During the reception, the UCLA Health Mobile Stroke Unit was on-site for guests to tour, and volunteers from UCLA's People-Animal Connection (PAC) program greeted guests at the reception, as they enjoyed music performed by members of the UCLA Music Therapy Program.



For more information, contact [Ellen Haddigan-Durgun](#) at: 310-206-3878

# UCLA Mattel Children's Hospital Hosts 19th Annual Party on the Pier



On November 18, 2018, more than 1,500 children, families, UCLA friends and celebrities attended the **19th Annual Party on the Pier** at Pacific Park on the Santa Monica Pier. Chaired by Hillary Milken, proceeds from the event provide unrestricted funding to launch high-priority programs that benefit children treated at UCLA Mattel Children's Hospital and around the world.

Attendees, including more than 50 sponsored patient families, enjoyed rides and game booths with toys donated by Mattel Inc. Celebrity guests — including Rachel Zoe and Leslie Grossman of *American Horror Story*, Rico Rodriguez and Aubrey Anderson-Emmons of *Modern Family*, Raini Rodriguez of *Austin & Ally*, and many others — volunteered at the game booths and posed for photos in the celebrity photo booth area sponsored by Petite 'n Pretty. Other high points of the day included a Power of Play area, sponsored by the Goldhirsh-Yellin Foundation, where children participated in a Mattel build-it and take-it MegaBlocs station and cookie decorating sponsored by Ralphs/Food 4 Less. They also heard performances by the BeatBuds. The VIP area featured music, dance contests and exclusive giveaways, along with lunch, courtesy of Wolfgang Puck Catering.

“We are grateful to Mattel, Inc., for our ongoing partnership and the company's commitment to improving the lives of children,” said Johnese Spisso, president of UCLA Health, CEO of the UCLA Hospital System and associate vice chancellor for UCLA Health Sciences. “We also appreciate the tireless work of our Party on the Pier committee chair and committee members.”

UCLA Mattel Children's Hospital cares for the physical and emotional well-being of children, from newborns to young adults. Its facilities are designed to serve the most critically ill children with sophisticated, compassionate care in an environment that is both welcoming and healing to children and their families.



 For more information, contact Molly Moursi at: 310-267-1826



**Opposite Page Top:** (From left) Fred Bernstein; Dr. Sherin U. Devaskar, physician-in-chief of UCLA Mattel Children's Hospital, executive director of UCLA Children's Discovery and Innovation Institute, Mattel Executive Endowed Chair in Pediatrics, and assistant vice chancellor of Children's Health; Michael Milken; Lori Milken, UCLA Mattel Children's Hospital board member; Johnese Spisso; and Jeffrey H. Cohen, UCLA Mattel Children's Hospital board member. **Opposite Page Bottom:** Beat Buds performing in the Power of Play tent sponsored by the Goldhirsh-Yellin Foundation. **Top Left:** Talia Savren-McCormick (top) and daughter Skye enjoy the amusement park rides on the pier. **Top Right:** Stylist and designer Rachel Zoe, her husband Rodger Berman and Skyler and Kaius Berman. **Middle Left:** Actress and singer Ruby Jay excited to see a guest win at one of the game booths. **Middle Right:** (From left): Party on the Pier event planning committee member Mia Janick; UCLA Mattel Children's Hospital Board Member and Party on the Pier Event Chair Hillary Milken; Dr. Devaskar and Loris Lunsford, Party on the Pier committee member. **Bottom Left:** Party on the Pier attendee enjoying an amusement park ride. **Bottom Right:** Actresses Lidya Jewett (left) and Mackenzie Hancsicsak.

Photos: UCLA Health, GettyImages



(From left): Mike Linnington and Mike Richardson of Wounded Warrior Project; UCLA Operation Mend representatives Troy Simon, Dr. Jo Sornborger, Dana Katz, Yolanda Poullard, Melanie Gideon, Lindsey Williams and Todd Katz.

Photo: Courtesy of UCLA Health Operation Mend

## UCLA Operation Mend Marches Forward

**UCLA Health Operation Mend** received a \$20.1-million grant from Wounded Warrior Project on October 23, 2018, at a news conference onboard the Intrepid Sea, Air & Space Museum in New York City. The contribution — the largest to date to Operation Mend — will expand the program’s intensive treatment program that serves veterans with post-traumatic stress and mild traumatic brain injuries and their caregivers.

“We’re grateful to be able to help warriors access world-class mental health treatment,” said Lt. Gen. Mike Linnington, CEO of Wounded Warrior Project. “We’re humbled by the support of the nation that allows us to commit to this care.”

UCLA Operation Mend provides advanced surgical and medical treatment for post 9-11 service members injured during combat or while training for service. Operation Mend’s six-week intensive program is designed for patients who require more than regular outpatient care and consists of three weeks at the UCLA Health campus and three weeks via teleconferencing once the warrior returns home. There is no charge to UCLA Operation Mend patients and their families or caregivers for treatment and travel-related expenses.

“After you get back from war, you are a different person. This program teaches you how to live and accept the ‘new you,’” said Army Maj. Yolanda Poullard, who completed the intensive treatment program at Operation Mend in 2016.

The funding will allow the program to more than double the number of mental health patients and caregivers treated by the program, which, in its first three years at UCLA, had outcomes showing all participants experiencing statistically significant reductions in all symptoms and a program completion rate of 97 percent.

“UCLA Operation Mend provides life-changing services for veterans and families in need of specialized medical, psychological and social support,” said Johnese Spisso, president of UCLA Health and CEO of the UCLA Hospital System. “UCLA Health is grateful to Wounded Warrior Project for its incredible commitment to healing our nation’s veterans.”



For more information, contact Nicholas Middlesworth at: 310-206-2089

# UCLA Health Sound Body Sound Mind Celebrates 20 Years of Supporting School Fitness Programs

More than 380 guests attended a sold-out celebratory event on October 4, 2018, to mark the 20th anniversary of **UCLA Health Sound Body Sound Mind**, a physical education community outreach program. Held at the UCLA Meyer and Renee Luskin Conference Center, the evening featured keynote speaker Christine Simmons, president and COO of the Los Angeles Sparks, and guest emcees Michelle Beadle and Max Kellerman of ESPN. UCLA leadership in attendance included UCLA Chancellor Gene D. Block; Dr. John C. Mazziotta (RES '81, FEL '83), vice chancellor for UCLA Health Sciences and CEO of UCLA Health; and Johnese Spisso, president of UCLA Health and CEO of the UCLA Hospital System.

“Tonight, we not only celebrate our 20th anniversary, but also the success and completion of our foundation’s \$3 million fundraising



(From left): Johnese Spisso, Chancellor Gene Block, Carol Block, Bill and Cindy Simon and Dr. John C. Mazziotta.

Photo: Todd Cheney

campaign,” said Bill Simon, cofounder, along with his wife Cindy, of UCLA Health Sound Body Sound Mind. “Thanks to the generosity of our donors, the UCLA Health Sound Body Sound Mind fitness centers will light a path to better health for middle and high school students in Los Angeles for many years to come.”

UCLA Health Sound Body Sound Mind is in 141 schools nationally and serves more than 170,000 students annually.

 **For more information, contact Ellen Haddigan-Durgun at: 310-206-3878**

# UCLA-Weizmann Institute Collaboration Advances Depression Research



**Left:** (From left): Dr. Kelsey C. Martin and DGC leadership council members Laurie Gordon and Garen and Shari Staglin. **Right:** (From left): UCLA benefactors Judy Briskin and Arline and Henry Gluck.

Photos: Don Liebig

Inaugurating a collaboration between the **UCLA Depression Grand Challenge (DGC)** and the **Weizmann Institute of Science (WIS)** in Israel, the DGC and WIS hosted

*A Conversation: The Basic Science of Depression* on September 5, 2018. Six scientists visited UCLA from WIS to discuss research partnerships to study the science of depression. Dr. Nelson Freimer, director of the DGC and Maggie G. Gilbert Endowed Chair in Bipolar Disorders, provided opening remarks. Dr. Jonathan Flint, Billy and Audrey Wilder Endowed Chair in Psychiatry and Neuroscience, led a discussion about depression with four scientists. Drs. Rony Paz and Meital Oren-Suissa from the Department of Neurobiology at WIS, alongside UCLA’s Dr. Baljit Khakh and Dr. David Krantz (MD '91, PhD '91, RES '95), discussed their backgrounds and research. Dr. John C. Mazziotta (RES '81, FEL '83), vice chancellor for UCLA Health Sciences and CEO of UCLA Health, and Dr. Kelsey C. Martin, dean of the David Geffen School of Medicine at UCLA and Gerald S. Levey, M.D., Endowed Chair, also attended the event. The UCLA DGC is committed to reducing by half the global burden of depression by 2050 and eradicating it by 2100. The four main components of the DGC include basic science research, innovative treatment, a 100,000-person study and understanding and eliminating the stigma of depression.

 **For more information, contact Dorin Esfahani at: 310-267-1838**

## UCLA Urology Honors Two Physicians

On October 18, 2018, members of **UCLA Department of Urology**, philanthropists, friends and family gathered to celebrate the retirement of Dr. Shlomo Raz (FEL '75), distinguished professor emeritus, and his 44-year career at UCLA. Dr. Raz dedicated more than 50 years to the study and treatment of urological disorders, with an emphasis on female pelvic medicine. The event also honored donors to UCLA Urology who established the Shlomo Raz, M.D., Chair in Urology. Dr. Mark S. Litwin (FEL '93), chair of the UCLA Department of Urology and The Fran and Ray Stark Foundation Chair in Urology, welcomed Dr. Victor Nitti (FEL '92), who will oversee the area of female pelvic medicine as the inaugural holder of the Shlomo Raz Chair.

 For more information, contact Heidi J. Saravia at:  
310-206-4565



Top: Dr. Shlomo Raz (left) and Dr. Victor Nitti. Bottom: Dr. Raz (left) and Dr. Mark S. Litwin.  
Photos: Reed Hutchinson

## Dr. Anthony C. Arnold Named Inaugural Chair in Neurodegenerative Diseases



(From left): Drs. William C. Stivelman, Bartly J. Mondino and Anthony C. Arnold.  
Photo: Gail Summers

On October 17, 2018, UCLA faculty members, family and friends gathered at **UCLA Stein Eye Institute** to celebrate the appointment of **Dr. Anthony C. Arnold (MD '75, FEL '83)**,

chief of the Neuro-Ophthalmology Division at Stein Eye, as the inaugural recipient of the Mary Oakley Foundation Chair in Neurodegenerative Diseases. Dr. William C. Stivelman, CEO and medical director of the Mary Oakley Foundation, facilitated the donation to establish the endowed chair. Dr. Arnold, a full-time member of the UCLA faculty since 1986, served as the residency program director at UCLA from 1994-2017 and is the current director of the UCLA Optic Neuropathy Center. Dr. Arnold has authored more than 100 publications and is co-editor of the text *Neuro-Ophthalmology: The Practical Guide*. Funding from the endowment will provide support for his research in ischemic and inflammatory optic neuropathies.

Dr. Bartly J. Mondino, director of Stein Eye Institute, chair of the Department of Ophthalmology, Bradley R. Straatsma, M.D. Endowed Chair in Ophthalmology and affiliation chairman of the Doheny Eye Institute, hosted the event and presented Drs. Arnold and Stivelman with commemorative chairs. Also in attendance were Dr. Arnold's wife, Dr. Laura Bonelli, as well as neuro-ophthalmologists from the UCLA Department of Ophthalmology.

 For more information, contact Gail Summers at:  
310-206-9701

# Gifts

**Archstone Foundation** has made a 10-year commitment of \$1 million to expand the existing Archstone Foundation Endowed Chair in Geriatrics held by Dr. David Reuben (FEL '88), chief of the Division of Geriatrics in the David Geffen School of Medicine at UCLA. The funding will allow Dr. Reuben to conduct further research into improving health care for older adults and enhancing the geriatrics competence of the division's faculty members.

UCLA alumni **Rodney Chase** and **Harvey Glasner**, along with the **Fineberg Foundation**, have made a contribution to the UCLA Department of Neurology to benefit Alzheimer's disease research. The funding will support validation studies of previously identified regulators or "master controller molecules" of major inflammatory pathways linked to Alzheimer's disease. These investigations may open the door to identifying new therapeutic targets in inflammation in the brains of patients with Alzheimer's disease.



Alexandra and Steven Cohen.  
Photo: Courtesy of the Steven & Alexandra Cohen Foundation.

The **Steven & Alexandra Cohen Foundation** has committed \$1 million to expand access to high-quality health care for under-resourced and at-risk populations. The gift will support the President's Strategic Fund, which ensures that UCLA Health has the resources to meet the complex needs of disadvantaged and vulnerable patients for whom an emergency or hospitalization can increase financial hardship. The foundation's investment also benefits the Rape Treatment Center at UCLA Medical Center, Santa Monica and Stuart House, its model program that serves the special needs of sexually abused children. The Cohens built their foundation on the belief that by leading by example, people will be inspired to give and take action.

Longtime UCLA supporters **Carol** and **James Collins** and their family have donated \$5 million to the David Geffen School of Medicine at UCLA to improve services and enhance well-being for older adults. The contribution establishes the Carol and James Collins Endowed Fund in Geriatric Medicine, under the direction of Dr. Brandon Koretz (RES '99, FEL '00), co-chief of the UCLA Division of Geriatrics and Carol and James Collins Endowed Chair in Geriatric Medicine. The gift will provide dedicated funds to support both the current needs of the division, such as the Alzheimer's and Dementia Care Program, Medical Home Visit Program, Generation Xchange Program and geriatric physician training, as well as provide flexibility to invest in future innovative research, programs and personnel. This philanthropic investment will have an enduring impact on programs within the UCLA Division of Geriatrics and on older people throughout Los Angeles, California and the nation.



Steven and Laurie Gordon.  
Photo: Courtesy of the Gordon family.

The **Steven Gordon Family Foundation** has made a \$25 million gift to create the UCLA Laurie and Steven Gordon Commitment to Cure Parkinson's Disease. The contribution will accelerate research into the disorder, which affects more than 10 million people around the world, and establish five endowed faculty chairs in fields related to Parkinson's in the David Geffen School of Medicine at UCLA. The funds also will support a new lab with positron emission tomography and magnetic resonance imaging technology, where scientists can closely examine the mechanisms of the disease. The Gordons are generous funders of neuroscience investigations, as well as influential advocates for families affected by Parkinson's disease.

This gift complements previous giving by the Gordons directed to Parkinson's research at UCLA, including their endowment of the Steven C. Gordon Family Chair in Parkinson's Disease Research held by Dr. Carlos Portera-Cailliau, and support for a research collaboration with Cedars-Sinai Medical Center and the Weizmann Institute of Science in Israel. In recognition of this gift, UCLA's Neuroscience Research Building will be renamed the Laurie and Steven Gordon Neurosciences Research Building, and the new imaging laboratory will be named for the couple.

The **L.A. Care Health Plan** has contributed \$1.3 million to support full scholarships at the David Geffen School of Medicine at UCLA. The gift is part of the L.A. Care Elevating the Safety Net Scholarship Program that is intended to address the growing shortage of primary care physicians and recruit more physicians to serve the county's most vulnerable residents. Thanks to this gift, eight students have received full scholarships. Four recipients will attend UCLA and four will attend the Charles R. Drew University of Medicine and Science.

The **Wilbur May Foundation** donated \$200,000 to the UCLA Mobile Eye Clinic (UMEC). This gift will help support UMEC's efforts to care for school-aged children in underserved communities and provide them with eye exams and eye glasses.



(From left) Dr. Jennifer Singer (MD '96, RES '02, FEL '03), Lou Hasson and Drs. Richard C. Onofrio and Mark S. Litwin.  
Photo: Sheri Determan

**Dr. Richard C. Onofrio** has made a gift of \$1 million to establish the Richard C. Onofrio, M.D. Endowed Fund in Resident and Fellow Education within the UCLA Department of Urology. Resident and fellow education is one of the highest funding priorities

for Dr. Mark S. Litwin (FEL '93), chair of the UCLA Department of Urology. This important philanthropic commitment will provide vital resources to promote and improve the training and educational needs of the department and stimulate the careers of young residents and fellows.

The David Geffen School of Medicine at UCLA has received \$3 million from **The Louis and Harold Price Foundation** to support the spinal cord work of Dr. Daniel Lu, associate professor of neurosurgery and director of the UCLA Neuromotor Recovery and Rehabilitation Center. The contribution will help fund research on mobility and function for patients with spinal cord injuries and will enable Dr. Lu to test potential groundbreaking therapies in larger patient groups. The expanded studies will evaluate whether various spinal stimulation approaches improve patient outcomes such as strength, mobility of limbs and bladder control. The Price Foundation has supported UCLA for more than five decades through its commitment to education, health, social services and the arts.

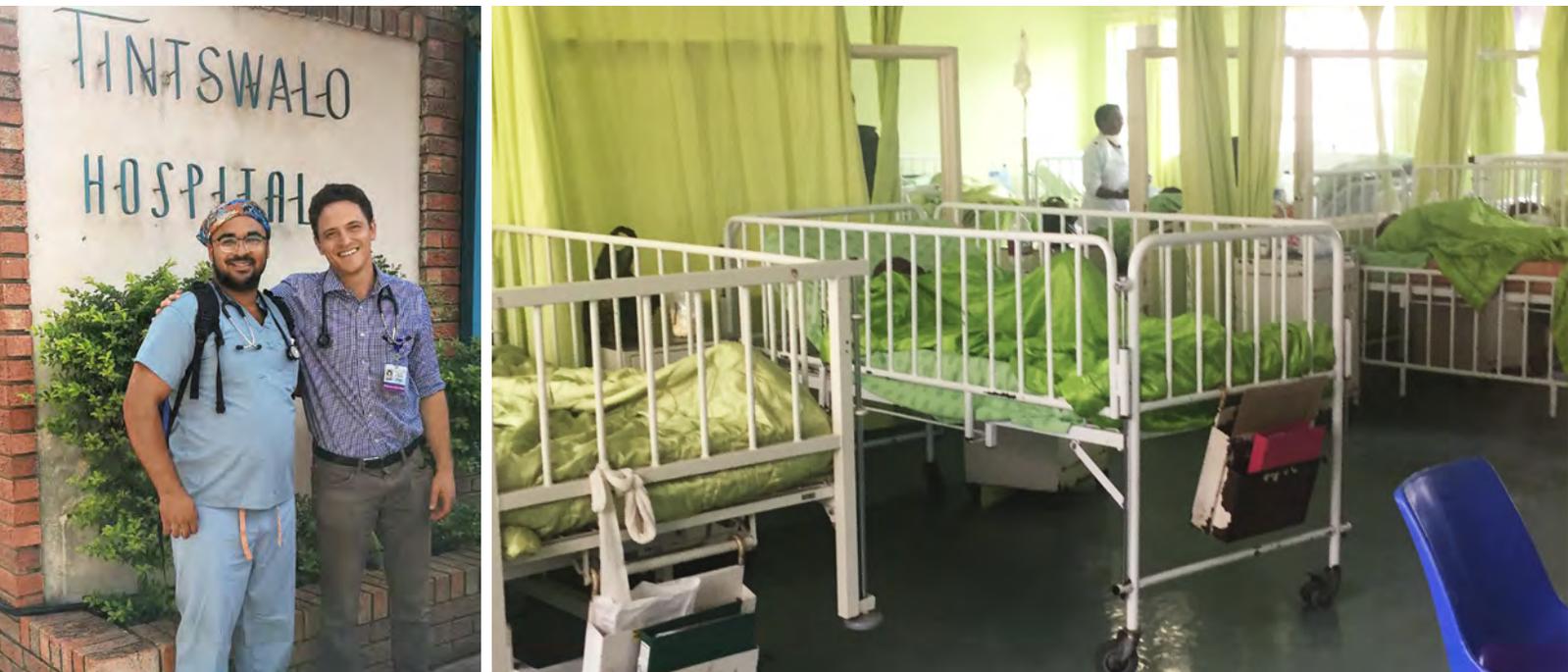
UCLA Foundation Board past-chair **Shirley Wang** and **Walter Wang** have established the Shirley and Walter Wang Fund for Depression Grand Challenge (DGC) East to help implement the Screening and Treatment for Anxiety and Depression (STAND) program in Taiwan. Created by the DGC team, the STAND treatment approach is already operational at UCLA. A key feature of STAND is the DGC's Mental Health Tracker mobile application, currently being translated into Chinese for use in Taiwan, that detects depression, assesses symptoms and helps provide treatment. The generosity of the Wang family brings UCLA one step closer to realizing its vision of cutting the global burden of depression in half by 2050.



**For more information, contact Health Sciences Development at: 310-206-6484**

# A Drop in the Bucket

By Lao-Tzu Allan-Blitz, MD '18



**Left:** Dr. Mikail Amir Gurland (left), a community service doctor at Tintswalo Hospital, and Dr. Lao-Tzu Allan-Blitz in front of the hospital in rural South Africa. **Right:** The male medical ward at Tintswalo Hospital.

## I TRAVELED TO RURAL SOUTH AFRICA TO WORK IN A DISTRICT HOSPITAL, NOT TO STUDY POLITICS.

But politics were inescapable. The president, Jacob Zuma, had just been pushed out of power, and Cyril Ramaphosa had taken his place. Everyone was talking. For the most part, the feeling among those orienting me to the hospital was one of guarded optimism; the corruption and inequalities perpetuated under Zuma may now finally abate, but how much could Ramaphosa do when surrounded by systemic corruption?

That feeling was mirrored within the microcosm of Tintswalo Hospital, where a new CEO had recently taken the reins after years of corruption and neglect. For years before, many of the hospital's physicians would come to work just long enough to be visible and then leave to work in their private practices, receiving both the salary from the hospital and the more lucrative income from their clinics. That left the wards grossly understaffed and patients unattended.

The impact of that absenteeism still was being felt when I arrived. On my second day, I walked into the tuberculosis ward, where a nurse immediately greeted me: "Oh good. I'm glad you are here. The doctor has not been here in a week, and we have patients who need you to see them."

That raised an interesting ethical dilemma. As a fourth-year medical student with a modicum of medical knowledge and a wealth of inexperience, how much could I actually help? And would I cause harm in trying?

**There were a few doctors in the hospital who worked themselves to the bone to make up for the absence of the others,** and that made things a little easier for me.

Three junior doctors who were doing their year of mandatory community service — comservs — poured their hearts and souls into their patients but often had to assess priorities and make choices that at times left some patients overlooked.



**Left:** The pediatrics ward at Tintswalo Hospital. **Center:** To properly treat a patient, Dr. Allan-Blitz had to improvise a drainage receptacle. **Right:** A pair of giraffes share space on the road on the way to work at Tintswalo Hospital.

In one instance, an elderly woman in her 80s was lying in a bed moaning, her head rolling back and forth. The chicken scratch on her chart had done little more than note findings of dementia and ascites (fluid accumulating in her abdomen) without any comments toward a diagnosis. Her vital signs were stable, and her abdomen was impressively distended. Her belly did not appear to be tender when I pressed, but fluid like that can easily become infected, and an infection won't always be painful. An infection can also cause a change in mentation. I asked one of the comservs what he thought.

"Eh, bru, she's always in laike this," he said. "Just give 'er some Ceffy" — ceftriaxone, an antibiotic.

I suggested we drain the fluid to alleviate some discomfort and test for an infection. He said he didn't have time to do it. But I did, and I was eager to perform the procedure. I'd done a couple during my training, so I had a general sense of what I was doing. But it was different in Tintswalo.

At home, we use an ultrasound to make sure that the bowel is far away in order to minimize the risk of perforation. At home, we use an elaborate kit with many components, a specific needle with a protective sheath, specialized tubing and dedicated receptacles. And all of the components are entirely sterile. In Tintswalo, they use any needle they can find, any tubing that they can connect to it and a bucket.

**I found an angiocatheter — used normally to start intravenous lines — and some tubing.** I cut off one end of the tubing so it would drain freely and was able to connect the other to the catheter. There was a mop bucket in the corner that I moved to the side of the bed. I cleaned the woman's abdomen and slipped in the needle.

Straw-colored fluid siphoned through the tubing. I was proud of myself — for a moment. Then I realized the tubing wasn't long enough to reach the bucket on the floor. Left hanging, it would splash peritoneal fluid across the ground and over my shoes. I couldn't put the bucket on the bed because it would be at the same height as the patient and wouldn't drain. So, I held the bucket slightly below the level of the bed with one hand and the tube with my other hand. I had other patients to see and didn't have time to stand there holding the bucket as it collected fluid. Also, the bucket was getting heavy.

I managed to balance the bucket with its lip resting between the railing of the bed and a small table that stood just below the level of the mattress. A few minutes later, the comserv came by and gave a nod of approval, chuckling when he saw the bucket. We checked to make sure we weren't taking off too much fluid and causing other problems; then he noticed something on the other side of the bed. He reached across to see what it was, and in doing so bumped the bed. The bucket dropped with a thud, sending up a wave of straw-colored fluid. The comserv was standing between me and the bucket and took the brunt of the flood, but we both were splashed. It was gross, but we were laughing as we replaced the bucket.

**The following day, the laboratory tests came back positive for *Mycobacterium tuberculosis*.** We put her on four antibiotics, and, suddenly, this elderly woman who had been on the edge of death had a chance for a cure. We realized that her previously assumed dementia may have been due to poorly managed intestinal tuberculosis that was never properly treated or to some other complications of tuberculosis.

Without treatment, the woman likely would have remained in that hospital bed, confused and dying from a serious but treatable infection because the commodity of time had, as a consequence of the corruption that left wards poorly attended, become too precious. We witnessed many other stories with far worse outcomes. To those who lived that reality every day, such stories seemed to be another drop in a precarious bucket, one that was balanced between the tragedies of the past and the hope of change, either from a new and empowered president, a young and uncorrupted CEO or a comserv working endless hours on the wards.

I left Tintswalo with the heaviness that comes from witnessing tragedies that would be preventable in different contexts. But I was hopeful that what was coming would be better.



**Dr. Lao-Tzu Allan-Blitz** is a resident in internal medicine and pediatrics at Brigham & Women's Hospital and Boston Children's Hospital in Boston, Massachusetts.

Photos: Courtesy of Dr. Lao-Tzu Allan-Blitz



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*U.S. News & World Report's*  
Best Hospital Survey ranks  
UCLA No. 1 in Los Angeles  
and No. 7 in the nation.



Photo: NASA/Cory Huston

On the InSight Mars lander, which launched on May 5, 2018, from Vandenberg Air Force Base in California, was a chip etched with the names of Ronald Reagan UCLA Medical Center and Drs. John C. Mazziotta, Abbas Ardehali and David M. Sayah. The inscription was a thank-you from a family friend of Kathlyn Chassey, who received a double lung transplant at UCLA in January 2017.