

# UCLA College

SUMMER 2020

Magazine



## WHAT BEGAN AS AN IDEA

ILLUMINATES OUR NEXT CENTURY

LET OUR FUTURE ECLIPSE THE GREATEST ACHIEVEMENTS OF OUR PAST BECAUSE TOGETHER THERE ARE NO LIMITS TO WHAT WE CAN LET THERE BE

100









**IT BEGAN AS AN IDEA** • An ideal shared by visionaries • Who looked beyond the horizon • Who imagined a university that would serve us all • From a single point of light • From a beacon of knowledge • Around which the best and brightest would rally • A guiding light illuminating the path of all those who see our world and our lives not as they are today • But as they one day might be • Let there be an ideal • Let there be those who believe • Those who strive, who lead the way • Let there be humble first steps and daring leaps forward • Let there be barriers broken, risks taken and infinite possibilities • Let there be lives bettered and a world changed • What began as an idea • Grew into one of our world's greatest institutions • It inspired some of our last century's finest moments • Our proudest innovations • Our most noble breakthroughs • Imagine the challenges still ahead of us • The next generation of optimists who stand alongside us • Let there be more to learn • More to accomplish • Let there be new pioneers • Let there be those who still dream • Discovering the undiscovered • Knowing what was unknown • Unlocking new doors • Redefining science and medicine • From profound insights once beyond our grasp • To life-changing breakthroughs now within reach • And the answers to the grandest challenges of our time • All of it is possible • Let there be a shared vision • Let that vision be a beacon that illuminates our next century • Let our future eclipse the greatest achievements of our past • Because together there are no limits to what we can **LET THERE BE**.

An excerpt from the narration to the Royce Hall light show that launched the Centennial Campaign for UCLA in 2014.





**The Deans of the UCLA College**  
From left:

**Miguel García-Garibay**  
Dean of Physical Sciences

**Darnell Hunt**  
Dean of Social Sciences

**Patricia Turner**  
Senior Dean  
Dean and Vice Provost for  
Undergraduate Education

**David Schaberg**  
Dean of Humanities

**Victoria Sork**  
Dean of Life Sciences

## CELEBRATING THE DEFINING MOMENTS OF UCLA COLLEGE

**This special centennial issue of the UCLA College Magazine celebrates the College's defining moments over the past 100 years.**

These “moments” represent an extraordinary legacy built by generations of Bruins — all driven by the desire to study, create, innovate and discover; by the calling to teach and provide opportunities for new generations; and by the need to improve the world in which we live.

As we look to a future changed by the coronavirus pandemic and with an important lens on racial inequality, we see the role of public research universities — as problem solvers, thought leaders, educators of the workforce and engines of economic mobility — as more essential than ever.

We will draw on the courage and vision from our past as we embrace our second century.

The College of Letters and Science at UCLA acknowledges the Gabrielino/Tongva peoples as the traditional land caretakers of Tovaangar (the Los Angeles basin and So. Channel Islands). As a land grant institution, we pay our respects to the Honuukvetam (Ancestors), 'Ahihirom (Elders) and 'Eyoohiinkem (our relatives/relations) past, present and emerging.





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**COLLEGE DEVELOPMENT**

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Assistant Vice Chancellor

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100 Years of Philanthropy

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100 Years of Graduates

**DEPARTMENTS**

Photos from inside cover: (From left to right) Nobel laureate Ralph E. Bunche '27; mathematics professor Terence Tao; 21st U.S. poet laureate Juan Felipe Herrera '72; Tracy Johnson, the Keith and Cecilia Terasaki Presidential Endowed Chair in the Division of Life Sciences; NASA astronaut Anna Lee Fisher '71, M.D. '76, M.S. '87; telescopes atop the Math Building on the UCLA campus; Ashraf Beshay '19, student commencement speaker; UCLA Mildred E. Mathias Botanical Garden; Royce Hall light show launching yearlong UCLA 100 celebration, 2019.

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# TOGETHER, WE WILL SHAPE THE NEXT CENTURY

**The UCLA College has singled out 100 defining moments that capture its sweeping scope over the last 100 years.**

These moments exemplify the College's excellence and impact in advancing education, research and service for the public good around the world — and point the way to an exciting new century.

UCLA has succeeded in accomplishing what very few other universities have been able to achieve: It has reached the pantheon of the world's top-tier research and teaching institutions in a mere 10 decades, one of the youngest universities to make that leap in that time frame.

This extraordinary feat, one that has been celebrated over this past centennial year, was made possible by a vast community who worked together to fulfill UCLA's mission as a public research university that creates, disseminates, preserves and applies knowledge to benefit mankind.

At the center of this enterprise is and has always been the UCLA College, with its five divisions: Humanities, Life Sciences, Physical Sciences, Social Sciences and Undergraduate Education. From breakthrough research to creative study to the forefront of discovery, take this journey back in time and get a glimpse into the future of the UCLA College. >>



# LAYING THE FOUNDATION



## UCLA COLLEGE

The College of Letters and Science, known today as the UCLA College, came into being four years after the launch of the two-year teaching college known as “the Southern Branch” of the University of California. •



1923

1925

1929

**Students could choose from 13 majors (compared with 109 today).**

Majors offered were chemistry, economics, English, French, history, Latin, mathematics, philosophy, physics, political science, psychology, Spanish and zoology. Philosophy professor **Charles H. Rieber** was the College’s first dean and served until 1936.

**The first Bachelor of Arts degrees were awarded to 100 women and 29 men.**

Just a year later, the College had 3,178 students and was named the fifth largest liberal arts college in the nation by the Association of American Universities.

**UCLA moves to Westwood.**

Classes moved from the original location on Vermont Avenue in Hollywood to Westwood in September, upon completion of the buildings on the Quad: Royce, Haines and Kinsey halls and Powell Library. Chemistry 1A was the first class held on the new campus.

## RANKINGS •



**public institution in U.S.**

-2019 Wall Street Journal/Times Higher Education College Rankings  
-2019 U.S. News & World Report Best Colleges. •

**#2**

U.S. public university

**#12**

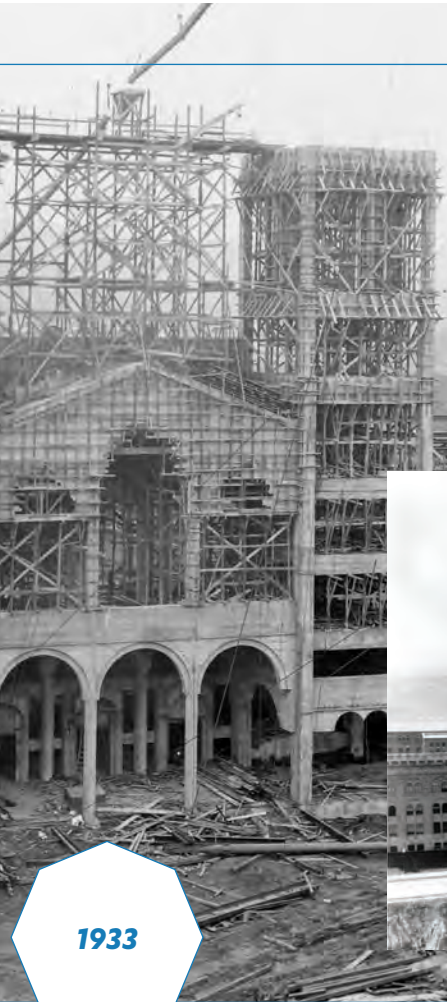
among all U.S. universities

**#17**

among universities worldwide

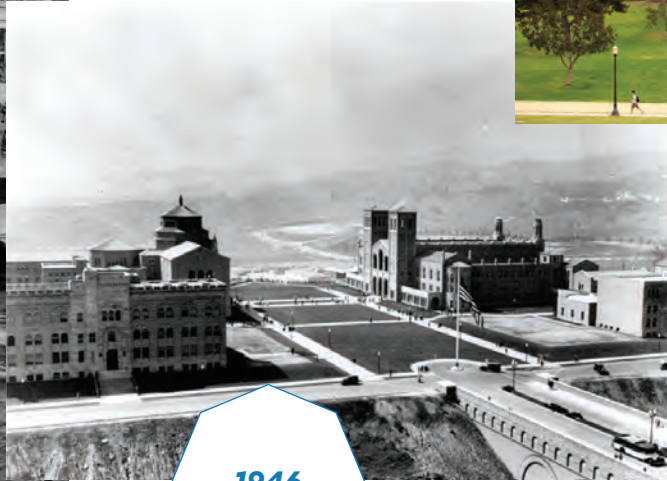
2020 Times Higher Education World University Rankings





**CAMPUS IN THE QUAD**

In 1929, Powell Library and Royce, Haines and Kinsey halls were completed. Westwood campus officially opened with 5,500 students enrolled. •



1933

1946

**TODAY**

UCLA College is home to 83% of UCLA undergraduates (about 25,000 students), 3,000 graduate students, 41 departments, 109 undergraduate majors, 50 graduate programs, and 40 Ph.D. programs.

**The first master's programs were approved in 16 fields.**

A year later, the first master's degrees were awarded to 42 graduates. Bachelor of Science degrees were inaugurated in 1934, followed two years later by the first approved Ph.D. programs (in English, history, mathematics and political science). In 1938, Kenneth P. Bailey became the first student to earn a doctorate (in history).

**Enrollment rose sharply after WWII.**

At that point the College was reorganized into four divisions – humanities, life sciences, physical sciences and social sciences – each headed by a divisional dean. **Paul A. Dodd**, professor of economics, was appointed overall dean of the College and chose as divisional deans **Franklin P. Rolfe** (humanities), **Albert W.**

**Bellamy** (life sciences), **William O. Young** (physical sciences), and **Dean E. McHenry** (social sciences). Dodd served until his retirement in 1961, when Rolfe became dean of the College. Many of these early College leaders have campus buildings named in their honor.

**#2**

public university in U.S.

2019 Academic Ranking of World Universities

**#11**

worldwide among public and private universities

**#2**

public university in U.S. (no. 9 overall), 2019 Times Higher Education Reputation Rankings

**#4**

best-value university in the U.S., 2019 *Forbes* magazine



# CURIOSITY **FUELS US** FORWARD





## UNDERGRADUATE EDUCATION **DISCOVERING RESEARCH**

From their first day at UCLA, freshmen and transfer students can participate in research or creative projects under the direction of a faculty mentor. More than half of UCLA bachelor's degree recipients graduate with research experience, supported by two undergraduate research centers – one focused on science, math and engineering and the other on the arts, humanities and social sciences. •



UCLA transfer student Hana Abdirahman is undertaking research on how to diagnose brain injuries not visible in an MRI.



## SOCIAL SCIENCES **THE GREAT WALL OF LOS ANGELES**

Towering among emerita professor of Chicana/o studies and visual artist **Judy Baca's** achievements is "The Great Wall of Los Angeles," a half-mile long mural depicting the history of the city decade by decade.

"The mural is not art simply as art," Baca said. "It's also an approach to art that has a strong relationship to place and community, as well as to the issues they're facing. Everyone finds a piece of themselves in it."

The arts activist led the work of more than 400 youth and their families, artists, oral historians and scholars in

the creation of the mural along the Tujunga Wash Flood Control Channel in the Los Angeles River. Painted over five years starting in 1974, it is now on the National Registry of Historic Places.

Baca is among the faculty who shaped Chicana/o studies at UCLA, which began in 1969 and evolved to become the César E. Chávez Department of Chicana/o Studies. UCLA is noted for being one of the first institutions to provide a doctoral specialization focused on Chicanos within a traditional discipline (Chicano history in UCLA College's history department). •

## PHYSICAL SCIENCES **REVEALING OUR SUPERMASSIVE BLACK HOLE'S HIDDEN SECRETS**

**Andrea Ghez** answered one of astronomy's most important questions in 1998, helping to show that a supermassive black hole known as Sagittarius A\* resides at the center of our Milky Way galaxy. The question had been a subject of much debate among astronomers for more than a quarter of a century.

In the decades since, Ghez has transformed the case for the existence of supermassive black holes — objects that confront our understanding of physics — and opened

the center of our galaxy as a laboratory for exploring black holes and their fundamental role in the evolution of the universe.

In just the last year, her research team has published three important discoveries. More than 100 years after Albert Einstein published his iconic general theory of relativity, Ghez and her team conducted the most comprehensive test of general relativity near the monstrous black hole at the center of our galaxy. She concluded in the journal *Science* that Einstein's theory holds up, at least for now, but is showing vulnerability

and cannot fully explain gravity inside a black hole. As part of this groundbreaking project, Ghez's team has been able to see the commingling of space and time near the edge of the supermassive black hole.

Last September, her team reported the enormous black hole is having an unusually large meal of interstellar gas and dust.

"We have never seen anything like this in the 25 years we have studied Sagittarius A\*," said Ghez, UCLA's Lauren B. Leichtman and Arthur E. Levine Professor of Astrophysics and director of the UCLA Galactic Center Group.

In January, her team reported the discovery of a new class of bizarre objects at the center of our galaxy, not far from the supermassive black hole — objects that look like gas and behave like stars.

Ghez is now marking the 25th anniversary of her first observation of this important research and is launching an ambitious program for the coming decade. •

Andrea Ghez (at the forefront), the Lauren B. Leichtman and Arthur E. Levine Professor of Astrophysics and director of the UCLA Galactic Center Group, with colleagues at the W. M. Keck Observatory, which sits atop Hawaii's dormant Mauna Kea volcano. The team uses a powerful technology Ghez helped to pioneer called adaptive optics to correct the distorting effects of the Earth's atmosphere with high-angular resolution imaging.







HUMANITIES

**REBUILDING NOTRE DAME**

When Paris' Notre Dame Cathedral burned in 2019, people around the world — including associate professor of art history **Meredith Cohen** — were devastated. The question of how to restore the cathedral after the fire, which destroyed a 300-foot spire and badly damaged its wooden roof, is generating strong opinions. Journalists are seeking Cohen's point of view; she's also a member of the Scientifiques de Notre-Dame association, a scholarly group that advocates for a responsible restoration to the French government.

Some want to return the cathedral to its brooding 19th century grandeur, reminiscent of Victor Hugo's novel *The Hunchback of Notre Dame*. Others

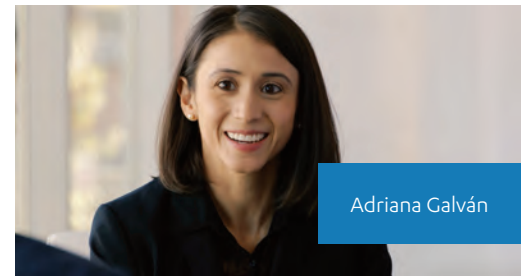
want to leave it as is, damage included. Her view is more nuanced and aims to honor both past and present. Cohen suggests rebuilding it to reflect our time, while still respecting the building's proportions.

Besides teaching, research and her public role in the restoration, Cohen is the principal investigator of the Paris, Past & Present project, a site that allows her, with help from students, to virtually reconstruct the city's medieval monuments. While the majority of these buildings were lost or destroyed, Cohen says, "I piece them together like puzzles in a 3D environment." •

LIFE SCIENCES

**BRAIN RESEARCH AND THE SUPREME COURT**

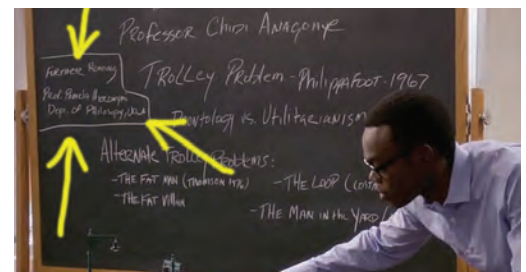
Psychology professor **Adriana Galván** blends neuroscience with developmental psychology to study the adolescent brain, which she has proved continues to develop until at least the mid-20s. Until that age, the region of the brain responsible for reasoning and impulse control is still developing. Her research, presented to the U.S. Supreme Court, led to a majority decision that sentencing juveniles to life in prison without the possibility of parole is unconstitutional. She holds the Wendell Jeffrey and Bernice Wenzel Term Chair in Behavioral Neuroscience. •



HUMANITIES

**THE ETHICS OF THE GOOD PLACE**

UCLA philosophy professor **Pamela Hieronymi** consulted on NBC's popular sitcom *The Good Place*, which created a fertile ground for questions about morality and catapulted philosophy into contemporary culture and social media. Hieronymi met with creator Michael Schur early in the show's development to discuss free will, moral responsibility, ethics and the heart of her current scholarship — the relationship between intention and action. •



**The Good Place** gave professor Pamela Hieronymi an Easter egg-style visual shoutout.

PHOTOS: (COHEN) REED HUTCHINSON/UCLA; (GALVÁN) COURTESY OF ADRIANA GALVÁN

COLLEGE

**NOBEL LAUREATES**

The UCLA College has a legacy of winning Nobel Prizes that stretches back to 1950. •

Among College **faculty** and **alumni** are 13 Nobel laureates honored for their work and discoveries ranging from carbon dating to peace treaties in the Middle East.

● Faculty

● Alumni



**1950**  
**Ralph Bunche**  
Peace Prize





COLLEGE  
**COURT OF SCIENCES**  
 The Court of Sciences received a green-space makeover in 2012, giving students and faculty space for intellectual exchange and relaxation on South Campus. •

PHYSICAL SCIENCES

**REVOLUTIONIZING SCIENCE**

**Willard F. Libby's** discovery of a way to determine the age of an organism by measuring the radioactivity emitted by the carbon-14 isotope revolutionized the study of archaeology, geology, geophysics and other branches of science.

His pioneering work in radiocarbon dating won him the Nobel Prize in Chemistry in 1960. In 1959, Libby had joined the UCLA College faculty as a professor of chemistry and became the first of six Nobel laureates to be on the faculty of the UCLA College over its 100-year history.

Libby knew that an organism absorbs carbon, including the radioactive carbon-14 isotope, until it dies. Then radioactivity starts to decay. He figured out how to measure these very

weak signals so that the organism's date of death could be fixed. "We have reason to believe that ages up to 15,000 to 20,000 years can be measured with some accuracy," Libby told *The New York Times*.

On Dec. 10, 1960, B. Lindblad, president of the Royal Swedish Academy of Sciences, praised Libby. "The extremely delicate measurements of the carbon-14 isotope, which you have inaugurated in your ingenious method, serve not only natural science, but, to a very great extent, archaeology and the study of the history of mankind in its early age."

In 1962, Libby became the director of UCLA's Institute of Geophysics and Planetary Physics and the founding director of its Space Physics Center. •

PHYSICAL SCIENCES

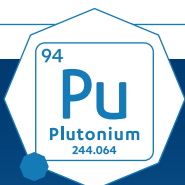
**PHYSICS AND THE LAWS OF NATURE**

Nobel laureate **Julian Schwinger**, one of the greatest physicists of the 20th century, was a UCLA professor from 1971 until his death in 1994. He shared the 1965 Nobel Prize with Richard Feynman and Sin-Itiro Tomonaga for their work on quantum electrodynamics. Today, UCLA leads the way in another area of physics. Faculty and students at the UCLA Mani L. Bhaumik Institute for Theoretical Physics attempt to determine the laws of nature and their consequences by constructing mathematical models of physical systems and solving the equations that underlie those models. •

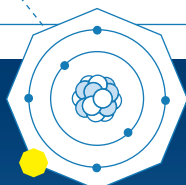
$$\frac{\alpha}{2\pi}$$

These symbols refer to his calculation of the correction ("anomalous") to the magnetic moment of the electron.

PHOTO: JEFF LEWIS '14



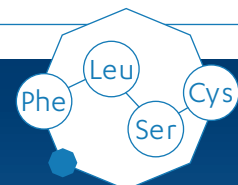
**1951**  
**Glen Seaborg**  
 Chemistry



**1960**  
**Willard F. Libby**  
 Chemistry



**1965**  
**Julian S. Schwinger**  
 Physics



**1984**  
**Bruce Merrifield**  
 Chemistry

Read more



## HUMANITIES

### FEMALE POWER IN ANCIENT EGYPT AND MODERN TIMES

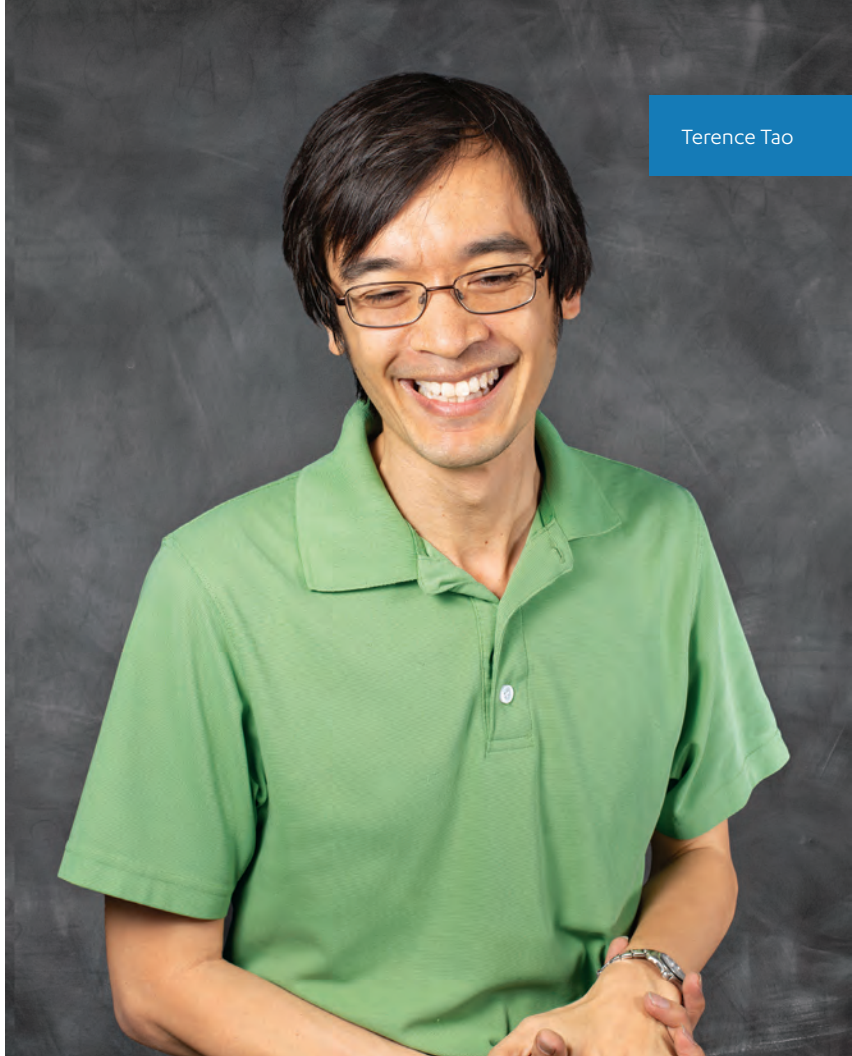
Egyptologist **Kara Cooney**'s latest book, *When Women Ruled the World: Six Queens of Egypt*, focuses on female kings over the course of 3,000 years of Egypt's history.

"Studying Egypt is a study of power, and specifically of how to maintain the power of the one over the many. That story also always includes examples of how women are used as tools to make sure the authoritarian regime flourishes," said Cooney, a professor of Egyptian art and architecture. "It's not about the feminist agenda. It's not about anything but protecting the status quo, the rich staying rich, the patriarchy staying in charge."

She adds, "I'm interested in seeing how people work within a system and why we are so opposed, even hostile, to female power." Even today, "Unless we start to talk about it and openly discuss it, it won't change." •



Professor Kara Cooney's 2019 National Geographic book tells the stories of six queens of Egypt: Merneith, Neferusobek, Hatshepsut, Nefertiti, Tawosret and Cleopatra.



Terence Tao

## PHYSICAL SCIENCES

### UNDERSTANDING HOW COMPLEX LIFE EVOLVED

**Paul Boyer** won the 1997 Nobel Prize in Chemistry for his pioneering research on how ATP (adenosine triphosphate) — the cellular energy that drives all biological reactions — is formed. Boyer, a member of UCLA's chemistry and biochemistry faculty from 1963 until his death in 2018, called ATP "the currency of cells."

Boyer devoted his research career to the study of enzymes, particularly to the study of oxidative phosphorylation — the process in which the energy that we get from the combustion of food is converted largely to ATP.

ATP absorbs the chemical energy released by the combustion of nutrients, a process that includes photosynthesis in plants and digestion in animals, and transfers it to fuel functions that require energy, such as the growth of cell parts, the contraction of muscles, and the transmission of nerve messages. Every cell function relies on ATP, and substantial quantities of ATP are formed and consumed by the human body each day.

The mechanisms by which ATP is made are highly complex and challenged scientists for decades. Boyer's insights helped illuminate the world's understanding of these processes. Over several decades, he developed a model of how the various

subunits of the ATP enzyme work together as a motor, driving the rotation of a central rotor. Boyer's model, based on biochemical experiments, was later confirmed by structural studies. •

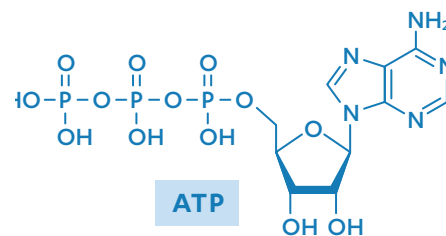


IMAGE: (COONEY) COURTESY OF KARA COONEY

## NOBEL LAUREATES — CONTINUED

● Faculty

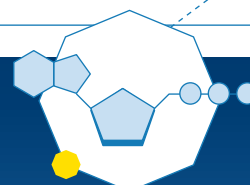
● Alumni



**1987**  
**Donald Cram**  
Chemistry



**1990**  
**William Sharpe**  
Economics



**1997**  
**Paul Boyer**  
Chemistry



**2009**  
**Elinor Ostrom**  
Economics



PHYSICAL SCIENCES

**FIELDS MEDALIST WITH  
'OTHERWORLDLY INGENUITY'**

In 2006, **Terence Tao** became the first UCLA mathematics professor to win the prestigious Fields Medal, often described as the “Nobel Prize in mathematics.” He has been compared with Albert Einstein and Leonardo da Vinci. Tao holds the James and Carol Collins Chair in the UCLA College.

In honoring Tao, the International Mathematical Union said, “Terence Tao is a supreme problem-solver whose spectacular work has had an impact across several mathematical areas. He combines sheer technical power, an otherworldly ingenuity for hitting upon new ideas, and a startlingly natural point of view that leaves other mathematicians wondering, ‘Why didn’t anyone see that before?’”

*Discover* magazine praised Tao’s research on prime numbers, conducted with Ben Green, a professor of mathematics at England’s University of Bristol, as one of the 100 most important discoveries in science for 2004. A number is prime if it is larger than one and divisible by only itself and one. The primes begin with 2, 3, 5, 7, 11, 13 and 17.

Euclid proved that the number of primes is infinite. Tao and Green proved that the set of prime numbers contains infinitely many progressions of all finite lengths. To prove this, they spent two years analyzing all four proofs of a theorem named for Hungarian mathematician Endre Szemerédi. Very few mathematicians understand all four proofs, and Szemerédi’s theorem does not apply to prime numbers. •



SOCIAL SCIENCES

**SEA LEVEL RISE AND GREENLAND**

Greenland is the single largest melting ice sheet in terms of meltwater runoff contributing to rising sea levels — and at least half of sea level rise from Greenland is from melting ice, according to professor of geography **Laurence C. Smith**.

Since 2012, a team led by Smith has visited Greenland’s ice sheet several times, using satellites, drones and sophisticated sensors. The project proves that combining expertise from multiple disciplines — among them meteorology, oceanography and hydrology (the study of the properties and movement of water over land) — is essential for fully understanding how glaciers and ice sheets respond to the climate system. •

LIFE SCIENCES

**SOCIAL COGNITION PIONEER**

Social cognition is the process of people making sense of the social world — how people think about themselves, other people, social groups, human history and the future. This social knowledge begins to develop in infancy, and guides human beliefs about others, and social behavior. Distinguished research professor **Shelley E. Taylor** is an expert on how people cope with adversity and founding scholar of three scientific areas: social cognition, health psychology and social neuroscience. She has been a member of UCLA’s psychology faculty since 1979.

Taylor and Princeton University psychology professor Susan Fiske, with whom she has been collaborating since 1972, published in 1984 the landmark book *Social Cognition*. Its fourth edition, in 2012, is titled *Social*

*Cognition: From Brains to Culture*. The authors proposed a model in which people process information on their social environment (people, groups, social situations) at two distinct speeds: a slow, careful speed, based on a systematic analysis of all available data, and a faster, relatively superficial one drawing on “cognitive shortcuts,” biases and strategies that simplify complex problems.

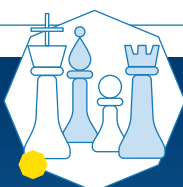
Instead of reaching conclusions in a rational manner, people often rely on shortcuts, including stereotypes. Taylor and Fiske defined several types of social thinkers, including what they called the “cognitive miser,” who exhibits a kind of bias favoring information that confirms one’s own beliefs, reducing the mental effort involved in processing. The cognitive miser simultaneously draws on and reinforces existing stereotypes, such as race, gender, age and immigrant status. •



PHOTOS: (SMITH) LINCOLN PITCHER; (TAYLOR) COURTESY OF SHELLEY TAYLOR



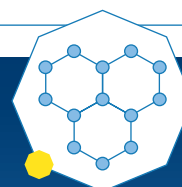
**2010**  
**Richard Heck**  
Chemistry



**2012**  
**Lloyd Shapley**  
Economics



**2013**  
**Randy Schekman**  
Physiology or Medicine



**2016**  
**J. Fraser Stoddart**  
Chemistry





“Bones, Stones, and Buddhist Monks,” final volume of a series of collected articles by professor Gregory Schopen (University of Hawaii Press, 1999).

## HUMANITIES DISPELLING MISREPRESENTATIONS OF BUDDHISM

Distinguished professor emeritus in the Department of Asian Languages & Cultures **Gregory Schopen**’s enduringly popular lecture “The Buddha as a Businessman” frames subjects ranging from Indian Buddhist monastic life and early Mahāyāna movements with a keen sense of humor. Not surprisingly, the research conveyed by the 1985 MacArthur Fellow turns preconceived notions about the religion — based on myths and Western portrayals — on their head.

Last July, scholars from around the globe came to pay tribute to Schopen in honor of his 20 years at UCLA. At the celebration, Donald S. Lopez Jr., Arthur E. Link Distinguished University Professor of Buddhist and Tibetan Studies at the University of Michigan in Ann Arbor, summed up the professor’s career pursuits distinctly. “Gregory Schopen has transformed our understanding of Buddhism more than any other scholar over the past half-century, not just in North America, but in the world.” •



Watch:

**The Buddha as a Businessman**

<https://youtu.be/3GeZGFvbDzo>

## LIFE SCIENCES

### UNDERSTANDING HOW COMPLEX LIFE EVOLVED

**James Lake**, a distinguished professor of molecular, cell and developmental biology and of human genetics, has devoted much of his career to pioneering research that has created insights about the evolution of the simplest one-cell life into the most advanced organisms.

Among Lake’s achievements was a breakthrough study, conducted with researcher **Maria Rivera**, which found that complex cells like those in the human body probably resulted from the fusion of genomes from simpler microbes, ancient bacteria and eocytes. The finding provides strong evidence that the combination of simpler organisms, which linked together in an effort to survive, led to the creation of more complex cells.

Scientists refer to bacteria, archaea and eocytes as prokaryotes — a cell type that has no distinct nucleus to contain the genetic material, DNA or other specialized components. More complex cells, known as eukaryotes, contain a well-defined nucleus and

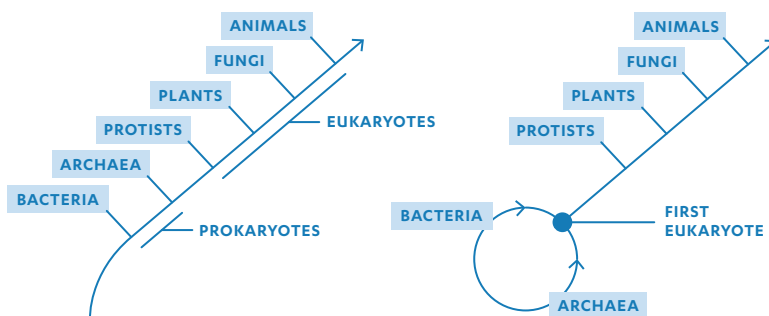
compartmentalized organelles that carry out metabolism and transport molecules throughout the cell. Eukaryotes can be as simple as a yeast cell, or as complex as the highly specialized cells of human beings.

“A major unsolved question in biology has been how eukaryotes evolve — where did humans come from?” Lake said.

To find the answer, Lake and Rivera analyzed and compared the genomes of 30 microorganisms selected from the four categories: eukaryotes, bacteria, archaea and eocytes — organisms often occupying extreme environments. Their analysis showed that two ancient prokaryotes combined their genomes out of a need to survive: Modern eukaryotes obtained genes required to operate the cell from the bacterial side of the family, and the information-carrying genes came from the eocyte side.

“Higher life would not have evolved without this event,” Lake said. •

One of science’s most popular metaphors, the “tree of life” (left), with its evolutionary branches and roots, can more accurately be described as a ring (right), according to Lake.



## SOCIAL SCIENCES

### REDISCOVERING LOST CIVILIZATIONS

The UCLA Cotsen Institute of Archaeology, located in the Fowler Museum on campus, brings together scholars from fields including anthropology, materials science, classics, history and engineering. The Institute houses numerous research labs on campus, and its field research spans the globe, from China to the Mediterranean and from the U.S. to Easter Island in the Pacific. Graduate training at the Institute includes a Ph.D. in the conservation of material culture and, in partnership with the Getty Museum, the UCLA/Getty Master’s Program in the Conservation of Archaeological and Ethnographic Materials. •



Moai statues on Easter Island, site of long-standing UCLA archaeology project.

PHOTO: (COTSEN) EASTER ISLAND STATUE PROJECT





SOCIAL SCIENCES  
**MONKEY BUSINESS**

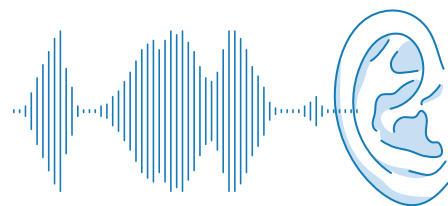
For three decades, UCLA anthropology professor **Susan Perry** has worked with students and volunteers to collect data at the Lomas Barbudal Monkey Project in Costa Rica. Perry's team created [HowToBeAMonkey.org](http://HowToBeAMonkey.org) to offer the world a glimpse into the life and daily activities of playful — and socially complex — capuchin monkeys. •

HUMANITIES

**THE SOUNDS OF THE WORLD'S LANGUAGES**

Once described as “the Indiana Jones of spoken language,” emeritus distinguished professor **Peter Ladefoged**, founder of the UCLA Phonetics Lab, said he wanted “to hear and describe all the distinct sounds of the world’s languages, perhaps 800 consonants and 200 vowels.”

The 1996 publication of *The Sounds of the World’s Languages* by Ladefoged and adjunct professor **Ian Maddieson** came close, describing sounds from about 400 languages, much of it based on original phonetic fieldwork by the authors or their colleagues. Funded by the National Science Foundation, it is still unmatched as a standard reference source at a time of continuing concerns over language endangerment. Later, a digital archive of fieldwork and student recordings was made public on the Phonetics Lab’s website at [archive.phonetics.ucla.edu](http://archive.phonetics.ucla.edu). •



UNDERGRADUATE EDUCATION  
**STUDENT RESEARCH**

Senior biochemistry major Abby Thurm capped off her time as a Bruin undergraduate researcher by presenting her research project titled “Defective-Interfering RNAs as an Anti-Viral Therapy Against Yellow Fever Virus” at the all-virtual Centennial Undergraduate Research Week in May.

Thurm received the Dean’s Prize at the Undergraduate Research Week. She also is a member of the Amgen Scholars program and the Undergraduate Research Scholars Program, and won the Best Paper award from the *UCLA Undergraduate Science Journal*.

Presenting her paper in an online webinar instead of the traditional Poster Day in Pauley Pavilion was different, Thurm said, but did offer a unique advantage. “The online talk actually offered a more personal way to present rather than a huge poster session,” Thurm said.

“Research has been the most impactful part of my undergraduate tenure. Thanks to the fantastic mentorship and experiences I’ve had, I am now pursuing research as a career through an M.D./Ph.D.” •

LIFE SCIENCES

**GUT BACTERIA AND YOUR HEALTH**

Two UCLA researchers are shedding light on the connection between health and gut microbiota — the 100 trillion or so bacteria and other microbes that live in the human body’s intestines.

Biologist **Elaine Hsiao**’s research team has identified specific gut bacteria that play an essential role in the anti-seizure effects of the high-fat, low-carbohydrate ketogenic diet. The study is the first to establish a causal link between seizure susceptibility and gut microbiota. A second study by Hsiao and her research team strongly suggests that serotonin and drugs that target serotonin, such as anti-depressants, can have a major effect on the gut’s microbiota. Serotonin — a neurotransmitter, or chemical messenger that sends messages among cells — serves many functions in the human body, including playing a role in emotions and happiness.

Research led by **David Walker**, professor of integrative biology and physiology, may answer the question of

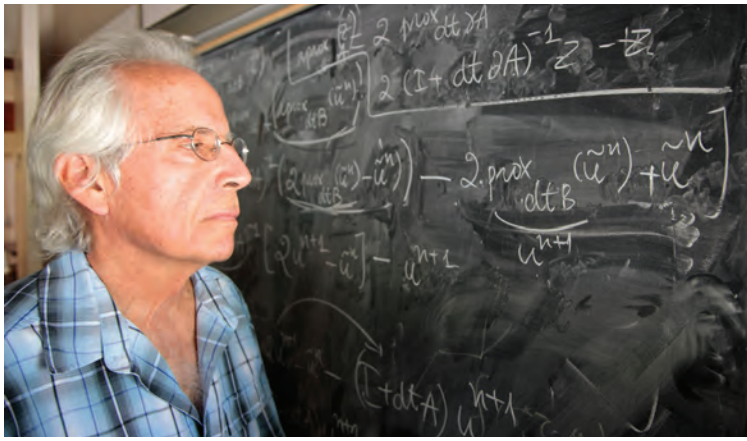
why some people remain healthy into their 80s and beyond, while others age faster and suffer serious diseases decades earlier. He and his research team discovered changes within intestinal microbes that precede and predict the death of fruit flies.

“Age-onset decline is very tightly linked to changes within the community of gut microbes,” Walker said. “With age, the number of bacterial cells increase substantially and the composition of bacterial groups changes.”

He and his research team are developing an intervention that could help delay declines in health. •



PHOTO: (PERRY) SEBASTIAN HERNANDEZ



PHYSICAL SCIENCES  
**ACADEMY AWARD-WINNING MATH**

Watch a film featuring animation and the words “defying physics” makes complete sense. The ability for these artistic works to make viewers feel as though the fiery breath of a dragon (*Harry Potter and the Goblet of Fire*) could actually sing their eyebrows, or that a maelstrom is drawing them into a vortex (*Pirates of the Caribbean 3*) can be credited to two professors of mathematics — **Stanley Osher** of the UCLA College Department of Mathematics and James Sethian of UC Berkeley.

All that onscreen magic is the result of the professors’ discovery of level set methods. The duo’s implementation of “numerically solving a time-dependent equation for a moving implicit surface” has myriad applications beyond animation — everything from analyzing medical scans and targeting the origins of an earthquake to predicting the weather and designing integrated computer circuits.

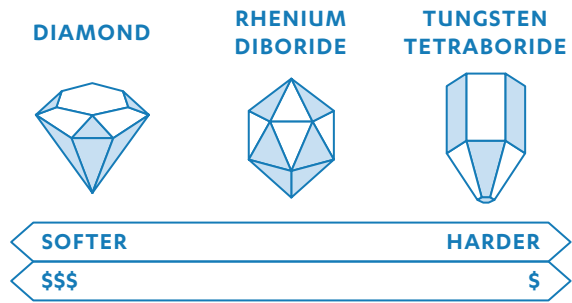
And while numerous accolades have resulted from the level set theory, the one that strikes a chord for animation fans is an Academy Award. Not only do animation studios the world over use Osher and Sethian’s level method, it can even be credited with garnering a coveted Scientific and Engineering Oscar in 2008. The recipient was Osher’s former student, professor Ron Fedkiw of Stanford University. •

PHYSICAL SCIENCES  
**DESIGNING SUPERHARD MATERIALS**

Hard materials, such as diamonds, which are used in a wide range of industrial and commercial applications, are expensive and not always reliable. The need for cost-effective, wear-resistant tooling has driven the search for ultra-incompressible, superhard materials.

In 2005, professors **Richard Kaner** and **Sarah Tolbert** from the Department of Chemistry and Biochemistry, together with their colleague professor **Jack Gilman** from Materials Science and Engineering, predicted a new family of superhard metals. Kaner and Tolbert demonstrated the first realization of this prediction in 2007 with the observation that rhenium diboride was superhard and could be used to scratch diamond.

This was soon followed by tungsten tetraboride, which is both less expensive and harder. Since then, a huge number of new superhard phases and compositions have been discovered and an entirely new subfield within hard materials has been created. Kaner and Tolbert shared both an NSF Creativity Award (2018) and the UCLA Herbert Newby McCoy Award (2007) for these advances. This basic science project has now come to practical fruition in the form of SuperMetalix, a company started by Kaner that is producing materials for cutting, drilling and polishing. •



PHYSICAL SCIENCES  
**UCLA COLLEGE IN SPACE**

From ground control to 5 billion light years away from Earth, pioneering UCLA Physical Sciences faculty and alumni have contributed to discoveries about our universe. •

**DISTANCE FROM EARTH**

**183 miles**  
**Walt Cunningham**  
 B.S. '60, M.S. '61  
 Mission: Apollo 7, 1963.

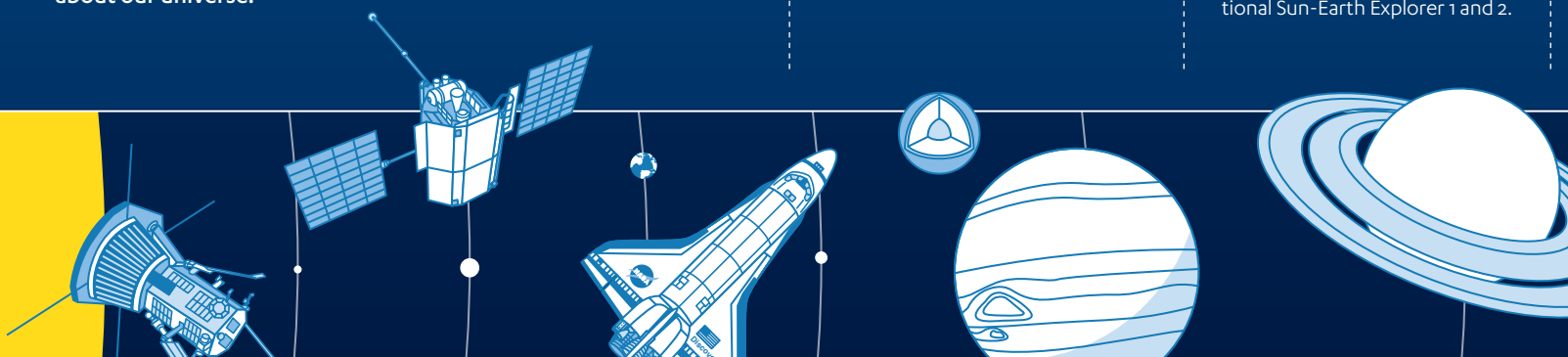
**191 miles**  
**Anna Lee Fisher**  
 B.S. '71, M.D. '76, M.S. '87  
 Mission: Discovery Space Shuttle, 1984.  
 First mother in space.

**215 miles**  
**Taylor Wang**  
 B.S. '67, M.S. '68, Ph.D. '71  
 Mission: Challenger STS-51-B, 1985.  
 First Chinese American astronaut.

**254 miles**  
**John Phillips**  
 M.S. '84, Ph.D. '87  
 Missions: STS-100 (Space Shuttle Endeavour) 2001; Soyuz TMA-6 (Expedition 11), 2005; and STS-119, 2009.

**305 miles**  
**Edward Wright**, the David Saxon Presidential Chair in Physics: leading the WISE mission that is searching for infrared light from nearby stars and galaxies.

**2,608 to 85,458 miles**  
 Earth, Planetary, and Space Sciences faculty: Built magnetometers for Polar spacecraft for the International Solar Terrestrial Program, 1996, and for International Sun-Earth Explorer 1 and 2.





Juan Felipe Herrera



PHOTO: (HERRERA) CARLOS PUMA FOR UC RIVERSIDE

HUMANITIES

**POETS AND POETRY**

Two UCLA College alumni have served as U.S. poet laureate.

Pulitzer Prize-winning poet Kay Ryan '67 M.A. '68 was appointed poet laureate in 2008. Her work uses irony and humor to unravel idiosyncrasies of the human experience. Juan Felipe Herrera '72, the first Latino poet laureate of the U.S., served from 2015-17. He writes about the bittersweet lives, travails and contributions of Mexican Americans. Herrera received the UCLA Medal in 2017 for his achievements as both an artist and activist. •

LIFE SCIENCES

**PIONEERING LIFE SCIENTISTS**

Professors **George Bartholomew** (1919-2006) and **Bernard Phinney** (1917-2009) are towering figures in the history of the life sciences in the UCLA College. Bartholomew is considered one of the founders of comparative animal physiological ecology and behavioral physiology, and his leadership shaped what is now the Department of Ecology and Evolutionary Biology. Phinney, a botanist, was a considered one of the new "biochemical geneticists" in the period after World War II. His groundbreaking research on the plant hormone gibberellin laid the groundwork for the current generation of molecular biologists studying the action of plant hormones. Both were elected to the National Academy of Sciences. •



HUMANITIES

**THE WRITTEN WORD**

UCLA College is home to one of the nation's top English departments, educating students and enriching the community in a range of ways.

UCLA Writing Programs (WP) provides the required writing courses for the more than 6,000 newly enrolled freshmen while also operating an Undergraduate Writing Center in Powell Library and the residence halls. WP trains teaching assistants and consults with faculty to develop discipline-specific writing courses, and in partnership with the English department, offers a professional writing minor for students.

UCLA's Creative Writing program draws on L.A.'s rich literary history to educate new generations of writers and bring the written word to public audiences. Events include the "Some Favorite Writers" reading series curated by professor of creative writing **Mona Simpson**, and a popular series of poetry readings, hosted by professor of English **Stephen Yenser**, which celebrated its 50th anniversary this year.

In yet another humanities milestone, in 2019 the Department of Comparative Literature celebrated 50 years at the forefront of literary, theoretical and cultural studies. •

**56,000,000 miles**

UCLA team: Developed thermal model of the planet Mercury for the Messenger spacecraft, the first to orbit the planet, 2004.

**90,000,000 miles**

Professor of space physics **Marco Velli**: Observatory scientist for NASA's Parker Solar Probe mission that traveled closer to the sun's surface than any other spacecraft, 2018.

**100,000,000 miles**

Professor of geophysics and space physics **Christopher Russell**: Principal investigator (PI) of the DAWN mission, which studied the asteroid Vesta and dwarf planet Ceres, 2007.

**238,900 miles**

Professor of planetary science **David Paige**: PI for the Diviner Lunar Radiometer, one of seven instruments aboard NASA's Lunar Reconnaissance Orbiter spacecraft and the first instrument to create detailed maps of surface temperature over the Earth's moon, 2009.

**390,674,710 miles**

UCLA scientists: Developed technology for the Juno mission to Jupiter, 2011.

**390,683,000 miles**

Distinguished professor of space physics **Margaret Kivelson**: PI of the Galileo Spacecraft and magnetometer, 1989. Galileo mission discovered liquid ocean below the icy crust of Jupiter's moon Europa.

**1,019,800,000 miles**

UCLA team involved in Cassini mission: Helped survey Saturn in 1997.

**1,600,000,000 miles**

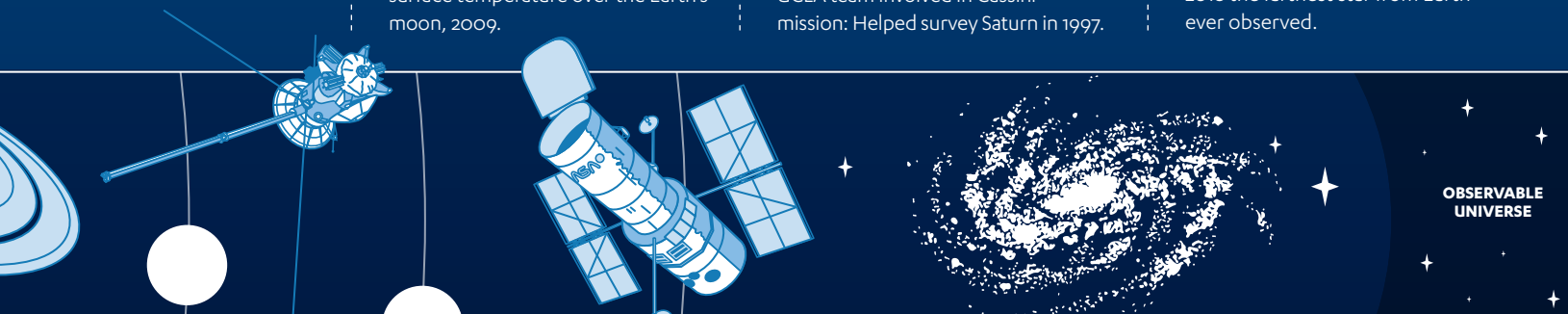
Professor **David Jewitt** and graduate student Man-to Hui: Using the Hubble Telescope, observed the farthest active comet from Earth ever seen.

**24,000 light years**

Professor **Andrea Ghez**: Discovered supermassive black hole in 2003.

**5 billion light years**

Professor **Tommaso Treu**: Using Hubble Telescope, reported in 2018 the farthest star from Earth ever observed.





COLLEGE  
**LIVES CHANGED CELEBRATION**  
 UCLA College faculty, students, alumni and donors were recognized at a 2016 event that highlighted the breadth and depth of talent in each division in the College. •



HUMANITIES  
**MUST-READ NOVELIST**

**Alain Mabanckou**, professor in the department of French and Francophone studies and among the most recognized writers in his genre, was named one of 2019’s “100 most influential Africans” by politics and culture magazine *New African*. Mabanckou is renowned for depicting the experience of contemporary Africa and the African diaspora in France. His novel *Black Moses* received the 2018 Hurston/Wright Legacy Award, and he was a finalist for the 2015 Man Booker International Prize. •

SOCIAL SCIENCES  
**GLOBAL SOLUTIONS FOUND IN UPHEAVAL**

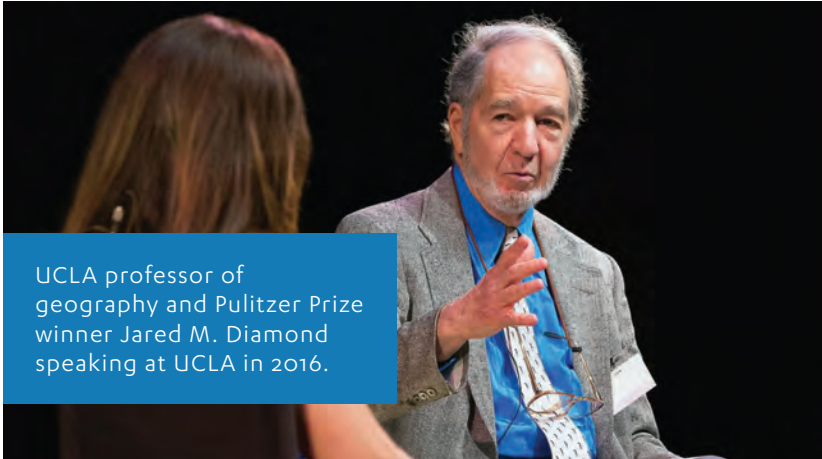
It’s said timing is everything. This is certainly the case for the 2019 release of **Jared M. Diamond’s** book *Upheaval: Turning Points for Nations in Crisis*. In the nonfiction tome, the UCLA College geography professor explores how both individuals and countries have dealt with crises and what can be learned from their actions. Twelve factors of success emerge with examples of how countries including Japan, Indonesia, Finland and Germany have navigated crises.

As for the U.S. and the many issues it’s facing, from polarization and inequality to climate change and the COVID-19 pandemic, Diamond’s advice of changing course if one’s current approach isn’t working is apropos.

Diamond is no stranger to tackling difficult topics through his work, drawing on expertise that extends beyond geography to include anthropology, history, ecology and evolutionary biology.

In addition to taking the lectern at UCLA College, the MacArthur Fellow has written eight books, including *Guns, Germs, and Steel*, for which he won the 1998 Pulitzer Prize for General NonFiction.

Of our future, Diamond has reassurances. Through studying the past, the professor says he’s cautiously optimistic the world can solve seemingly overwhelming problems. •



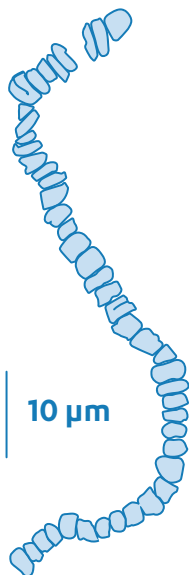
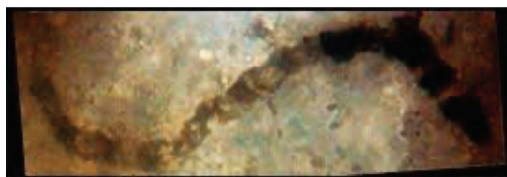
UCLA professor of geography and Pulitzer Prize winner Jared M. Diamond speaking at UCLA in 2016.



PHYSICAL SCIENCES

**OLDEST KNOWN FOSSILS**

In 2002, paleobiologist **J. William Schopf**, director of UCLA's Center for the Study of Evolution and the Origin of Life, and his colleagues substantiated the biological origin of the earliest known cellular fossils, which are nearly 3.5 billion years old. In 2017, a new analysis of these fossil microorganisms by Schopf and his colleagues provided strong evidence to support the increasingly widespread understanding that life in the universe is likely common. •



PHYSICAL SCIENCES

**RARE MATH DISCOVERIES**

Over the last 50 years, members of UCLA's mathematics department have discovered eight of the 51 currently known Mersenne primes, defined as a prime that is one less than a power of two. In August 2008, UCLA discovered the world's largest known prime number to date, which also was the first prime with over 10 million digits. •

UCLA has discovered <b>8</b> Mersenne primes	Mersenne primes are rare discoveries: Only 51 have been discovered since 500 B.C.
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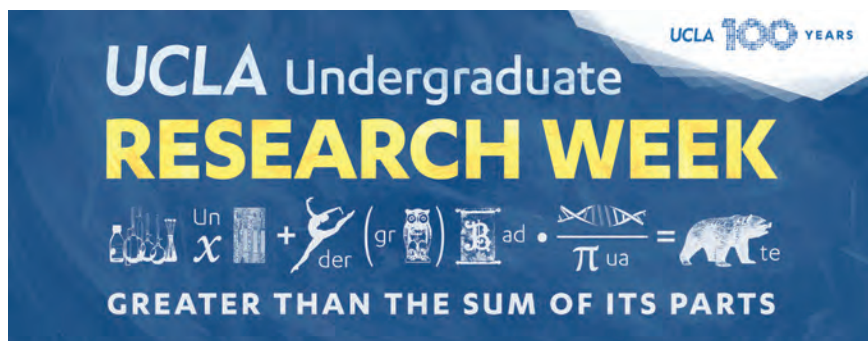
UNDERGRADUATE EDUCATION

**STARTUP THINKING**

Startup UCLA, established in 2012, helps students learn the basics of startup thinking and provides a community in which to develop and launch their ideas. Through its 10-week Summer Accelerator, students and young alumni get workspace and guidance from top entrepreneurs, investors and skill experts. The program culminates in Demo Day when teams pitch to a network of local entrepreneurs and investors. The accelerator has produced startups ranging from mobile applications to educational technology and eCommerce platforms. •

UNDERGRADUATE EDUCATION

**STUDENT RESEARCH** Every year young researchers aspiring to be the leaders of tomorrow and problem-solvers for global challenges gather to present their projects. This year marked the first-ever virtual undergraduate research showcase. •



LIFE SCIENCES

**BRINGING INNOVATION TO MARKET**

Researchers in UCLA College's Molecular, Cell & Developmental Biology and Microbiology, Immunology & Molecular Genetics departments are taking inventions from concept to the marketplace to broadly benefit the public.

**Changing the world's food production**

Professor **Steve Jacobsen** recently became the scientific co-founder of Inari, a plant-breeding company aiming to make crops more resilient to factors such as climate change. At the forefront of Inari's work are plant-breeding patents developed at UCLA by Jacobsen, an expert in plant epigenetics.

Through their collaboration, UCLA, Inari and Jacobsen have launched the world's first seed foundry. The company's new seeds and resultant high performance crops could

address economic and environmental obstacles facing the agricultural industry.

**New solutions for hair loss**

A discovery made through stem cell research offers hope for those experiencing hair loss, be it due to chemotherapy, alopecia, age or other factors. While working in UCLA's Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research, professor **William Lowry**, associate professor **Heather Christofk** and professor **Michael Jung** discovered compounds that activate stem cells, reawakening dormant hair follicles and accelerating hair growth. The trio won a 2017 UCLA Innovation Fund award for their findings.

Christofk and Jung have since formed Pelage Pharmaceuticals, teaming up with

Allergan in Dublin, Ireland, to bring a hair loss solution to the public.

**Fighting bacteria on the nanoscale**

**Jeff F. Miller**, UCLA's Fred Kavli Professor of NanoSystems Sciences and the director of the California NanoSystems Institute at UCLA, is using bio-inspired engineering in conjunction with naturally occurring nanomachines that recognize and kill bacteria.

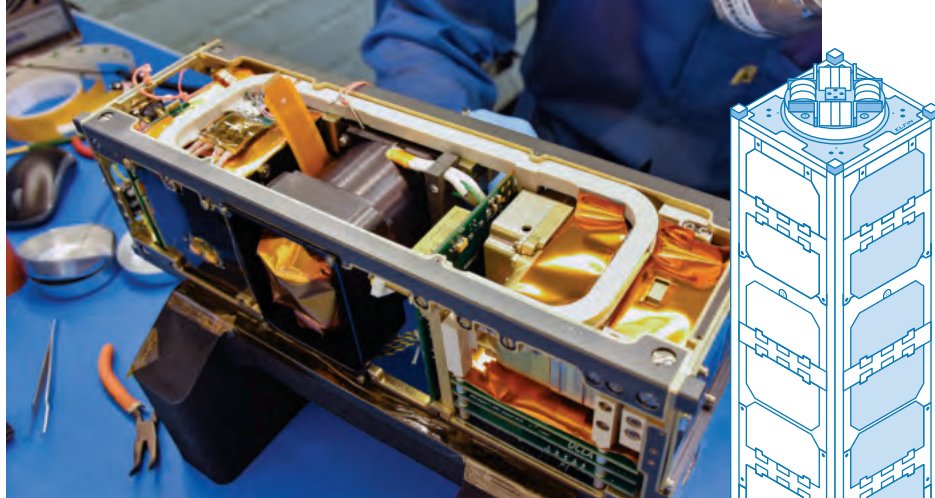
UCLA scientists are developing technology that will lead to engineered variations of the nanomachine, specifically pyocins. The discovery led Miller to cofound Pylum Biosciences, a startup developing different therapies with pyocins, which will target only harmful bacteria. Human clinical trials are forthcoming. •

PHOTO: (SCHOPF) COURTESY OF J. WILLIAM SCHOPF



# IN THE PURSUIT OF DISCOVERY





## PHYSICAL SCIENCES

**STUDENTS BUILD UCLA'S FIRST SATELLITE**

At 6:02 a.m. on a Saturday in September 2018, the culmination of the work of more than 250 UCLA students took flight when a Delta II rocket lifted off from Vandenberg Air Force Base and launched UCLA's first-ever satellite into space.

Named ELFIN, or Electron Losses and Fields Investigation, the satellite studies space weather, gathering data to help scientists model and predict Earth's dynamic radiation environment. The mission is composed of two identical satellites called cubesats because of their tiny size — slightly larger than a loaf of bread.

Over the course of more than eight years of planning, UCLA space physics

professor **Vassilis Angelopoulos** shepherded the team of primarily undergraduate students through the satellite mission's design, development, testing and ongoing operation. Students with majors both within Physical Sciences and from across campus led a subsystem contributing to the cubesats' operation.

ELFIN marks the first time an entire spacecraft has been built, managed and operated on the UCLA campus. The mission is designed to last through 2021, with several dozen UCLA undergraduates continuing to lead mission operations and software development. •

## SOCIAL SCIENCES

**CAREER DEVELOPMENT**

Named for Nobel laureate and UCLA alumnus William F. Sharpe, the Sharpe Fellows career development program brings together top employers with talented students interested in industries such as investment banking, finance, consulting and technology. The Simon Fellows program, a subset of the Sharpe Fellows program, connects students with internships at top investment management firms, hedge funds, and private equity and venture capital firms. •



## LIFE SCIENCES

**ADVANCING RESEARCH AND SCIENCE EDUCATION**

In 2002, cell biologist **Utpal Banerjee** was named one of the country's first Howard Hughes Medical Institute (HHMI) Professors and awarded a \$1 million grant to improve undergraduate science teaching. HHMI is the largest private, nonprofit supporter of science education in the United States. Banerjee initiated a life sciences course that became UCLA's biomedical research minor, which incorporates hands-on research experience and mentorship for undergraduate students, a novel approach at the time.

The Irving and Jean Stone Endowed Professor of Life Sciences and a distinguished professor in the department of molecular, cell and developmental biology, Banerjee is widely recognized for his research on fruit flies and was elected to the prestigious National Academy of Sciences in 2018.

**Students publish research**

Recently, a team of 245 UCLA undergraduates and 31 high school students conducted research that ended up as a published encyclopedia of more than 1,000 fruit fly genes, including 421 genes whose functions were previously unknown.

"I expect this will be a highly cited paper and a valuable resource to life scientists," said **Tracy Johnson**, director of UCLA's biomedical research minor. "One of the best ways to teach science is by having authentic research experiences embedded in a course," said Johnson, the Keith and Cecilia Terasaki Presidential Endowed Chair in the Division of Life Sciences and an HHMI Professor.

Johnson, whose lab studies how cells interact with RNA to regulate gene expression, used her HHMI grant to establish the Pathways to Success program to expand the numbers of students in the biosciences, especially transfer students and those from underrepresented minority groups. She also co-directs the Bruins in Genomics Summer

Undergraduate Research Program for outstanding undergraduates from across the country.

**Expanding the science pipeline**

For more than 10 years, **Paul Barber**, a professor in the department of ecology and evolutionary biology and an expert in evolutionary genetics in marine environments, has directed the Program for Excellence in Education and Research in the Sciences (PEERS). The two-year program for students wanting to pursue careers in the life or physical sciences emphasizes the recruitment and retention of students from groups traditionally underrepresented in science. Studies show that its students are nearly twice as likely to complete a science degree and earn better grades than similar students not in PEERS.

"Because of Dr. Barber, I know I will become a professor and continue to provide opportunities to young scientists, particularly Black females like myself," said Camille Gaynus, Ph.D. '19 •

## HUMANITIES

### ELEVATING AN AGE-OLD DISCIPLINE

The UCLA Department of Philosophy was transformed in 2018 by one of the largest ever gifts to a university philosophy department: \$20 million from Jordan and Christine Kaplan and Jordan's longtime business partner, Ken Panzer, in honor of Jordan's parents, longtime UCLA faculty members Renée and David Kaplan. An additional \$5 million was given to support graduate students in the humanities division. In recognition, UCLA's Humanities Building was renamed Renée and David Kaplan Hall. •



Students do fieldwork as part of a food justice course.

## UNDERGRADUATE EDUCATION CROSS-DISCIPLINARY MINORS

A growing list of interdisciplinary minors is attracting students who seek to broaden their post-graduation prospects and interact with peers in different areas of study.

Launched in 2016, the food studies minor embraces learning about individual, sociocultural and global issues through the lens of food in classes such as "Chocolate in the Americas: Bittersweet Bliss." The study of food crosses fields including arts, anthropology, environment and sustainability, folklore, geography, history, humanities, law, psychology, public health and public policy. •

One of the most robust and constantly evolving interdisciplinary minors is disability studies. The minor allows students to challenge and redefine what is "normal" — whether physical, mental or intellectual. By exploring disability as a social issue, rather than a medically defined condition, students learn to use the experience of disability as a lens to re-envision models of access, inclusion, participation, communication and equality. •

## SOCIAL SCIENCES

### HISTORY IN THE MAKING

1994

History professor **Gary Nash** and education professor **Charlotte Crabtree** developed and published a new framework for teaching U.S. and world history to K-12 students. The framework was the culmination of years of collaboration with historians and classroom teachers through the history department's National Center for History in the Schools, which is now part of UCLA's Public History Initiative.

2012

The History Department received \$10 million, its largest gift to date, from the Arcadia Fund. The gift has provided funds for graduate student support, faculty and graduate student research, and public programs.

2017

The Luskin Center for History and Policy is the first academic research center on the West Coast with a mission to bring historical perspective to contemporary policy issues. Made possible by a gift from Meyer Luskin, the Center recently published research and recommendations for city officials on L.A.'s lack of affordable housing, informed by lessons from the city's past. •



COLLEGE

**STARS AND SPACE ROCKS**

At UCLA's Planetarium, located atop the Mathematical Sciences Building, audiences can marvel at lunar craters, cloud patterns on Jupiter, Saturn's rings, multiple star systems, nebulae and galaxies during planetarium shows presented by astronomy grad students.

Members of the public can explore the West Coast's largest meteorite collection at UCLA's Meteorite Gallery. Located in the Geology Building, the gallery has more than 2,500 samples from about 1,500 different meteorites, most of which are 600 million years older than the oldest known Earth rock. •



Community members enjoy a rocket science demonstration at one of Exploring Your Universe's more than 65 interactive science booths.



PHYSICAL SCIENCES  
**FOR THE CURIOUS**

Thousands of future scientists and curious minds descend on the UCLA campus the first Sunday of every November for Exploring Your Universe. Organized by UCLA graduate students and run by volunteers, the free science fair is one of UCLA's biggest annual events. •



LIFE SCIENCES

**UCLA MILDRED E. MATHIAS BOTANICAL GARDEN**

Envisioned in the original design of the Westwood campus, the UCLA Mildred E. Mathias Botanical Garden has laid firm roots over the last 90 years. The collection housed in this living museum has evolved, yet holds true to its original purpose as a teaching and research laboratory. The Garden's namesake botanist Mildred E. Mathias was among the first women to serve on the faculty at UCLA. As garden director, she engaged students and the local community in this outdoor classroom through hands-on experiential learning.

Today Bruins across many diverse areas of study from English to physics come to learn in the Garden. A revitalization — led by life sciences dean Victoria Sork and bolstered by donors such as philanthropist Morton La Kretz — is putting in place a vision for the next 100 years, with an expanded mission to promote appreciation of nature to the broader community, and to support botanical conservation amid the increasing loss of biodiversity in the 21st century. •



The Mildred E. Mathias Botanical Garden is a 7.5 acre urban oasis on the UCLA campus open to the public daily. It contains more than 3,000 species of plants from all parts of the world, including diverse collections of subtropical, desert and Mediterranean plants.



## LIFE SCIENCES

### PIONEERING RESEARCH

Immunologist **Sherie Morrison** is renowned for her work on antibody function and its use in treating human diseases. Included among her 29 patents is antibody technology used as the basis for medicines to treat a variety of autoimmune diseases like rheumatoid arthritis, Crohn's disease and multiple sclerosis. A distinguished research professor of microbiology, immunology and molecular genetics, she has twice led the department as chair. She and her husband, Don, have made several major gifts to the College, Athletics and UCLA Anderson and were awarded the UCLA Medal in 2019. •



## UNDERGRADUATE EDUCATION

### VIP SCHOLARS — EDUCATION FOR EVERYONE

Too often, students from underrepresented groups and underserved communities miss out on valuable resources that can help them prepare for college. Since 2006, UCLA's Vice Provost Initiative for Pre-College (VIP) Scholars Program has worked with students at 10 local high schools with historically

low numbers of college applicants. Provided at no cost to the students or their families, the program offers college advising, application assistance, student and parent workshops, research opportunities, Buddy Days for high school students to shadow UCLA undergraduates, and a residential summer program. •

## UNDERGRADUATE EDUCATION

### OFF-CAMPUS EXPERIENCES: STUDY ABROAD AND QUARTER IN WASHINGTON PROGRAM

Through UCLA's Quarter in Washington and study abroad programs, the classroom truly becomes global. Each year thousands of Bruins travel to Shanghai, Buenos Aires,

London, Rome and hundreds of other cities to take courses, intern and conduct research while gaining a new global perspective and experiencing other cultures. •



## SOCIAL SCIENCES

### UCLA CENTER FOR THE STUDY OF WOMEN

Founded in 1984, the UCLA Center for the Study of Women was the first organized research unit of its kind in the UC system. It is now an internationally recognized multidisciplinary research center on gender, sexuality and women's issues. •



Panel of speakers at a 1985 conference, jointly planned with the Center for the Study of Women, which explored attitudes toward race and racism.





**Associate professor Allison Carruth holds the Neikirk Chair.**

**UNDERGRADUATE EDUCATION**  
**A FIRST FOR UNDERGRADUATE EDUCATION**

The Waldo W. Neikirk Term Chair for Innovative Undergraduate Education made history as the first endowed chair in the Division of Undergraduate Education. Created in 2010, it is awarded every three years to a faculty member in classics, comparative literature, English, European languages, history or philosophy who has a record of innovative and stellar teaching in the Freshman Cluster Program or the Honors Collegium. •

**COLLEGE**  
**TEACHING EXCELLENCE**

To continually raise the level of teaching and to help students succeed in the classroom, centers and programs provide faculty, lecturers and teaching assistants with instructional training and assessment. •

**The Center for the Advancement of Teaching**

Mission: Innovative and inclusive instruction for a diverse student population

**The Center for Education Innovation & Learning in the Sciences**

Mission: Retention of life and physical sciences students to expand the scientific talent pipeline

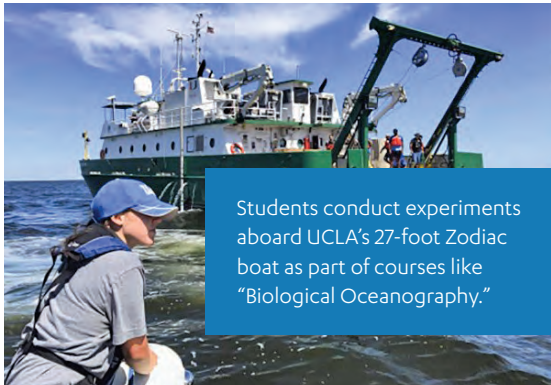
**The Excellence in Pedagogy and Innovative Classrooms program (EPIC), funded by the Andrew W. Mellon Foundation**

Mission: Cutting-edge humanities teaching



A forum on humanities teaching and learning hosted by the EPIC program.

PHOTOS: (TEACHING EXCELLENCE) REED HUTCHINSON/UCLA; (CLIMATE SCIENCE) CIARA KELLY; (WORLD LANGUAGES) CORAL VON ZUMWALT



Students conduct experiments aboard UCLA's 27-foot Zodiac boat as part of courses like "Biological Oceanography."

**PHYSICAL SCIENCES**  
**EDUCATING CLIMATE SCIENCE LEADERS**

Launched in 2018, the climate science major in the College's Department of Atmospheric & Oceanic Sciences is the first major of its kind among the world's top research universities. It brings disciplines together to address climate change, one of the greatest challenges facing humanity.

Scientific understanding of the impacts of climate change has increased dramatically over the past few decades. New technology that powers observation and computation makes for a fertile field for education for undergraduates, who will be the next to address climate-related challenges.

Ashley Hoffman, who last year made history as UCLA's first climate science graduate, said, "I feel an enthusiastic obligation to use my education to help living beings. Whose heart doesn't go out to the sea turtle with the plastic straw stuck in its nose?" •

**HUMANITIES**  
**WORLD LANGUAGES AND CULTURES**

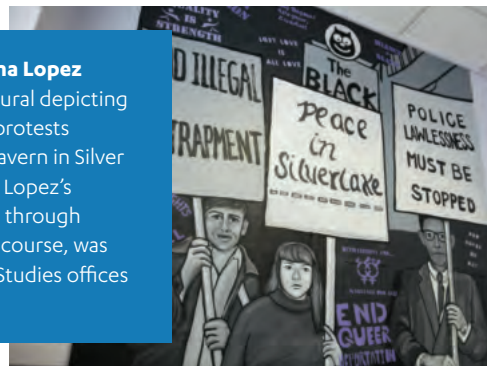
It's no surprise that, situated in one of the nation's most culturally diverse cities, UCLA offers state-of-the-art instruction in more than 40 languages and dialects and is home to several cultural research centers.

Students who graduate with global perspective, cultural literacy and foreign language skills are positioned for careers in business, diplomacy, law, nonprofits and more. •





Assistant Professor **Alma Lopez** pictured in front of a mural depicting the 1967 LGBTQ rights protests outside the Black Cat Tavern in Silver Lake. The mural, which Lopez's students helped create through her "Queer Art in L.A." course, was installed in the LGBTQ Studies offices in Haines Hall in 2014.



HUMANITIES

**A LEGACY OF LGBTQ LEADERSHIP**

While this fall marks the 23rd anniversary of the interdisciplinary LGBTQ program within the humanities division of the College, UCLA has sponsored research in lesbian, gay, bisexual, transgender and queer studies for more than 50 years — longer than almost any other university in the United States.

The College's legacy of LGBTQ research, advocacy and education affects student life as well. In 2017, UCLA was designated No. 6 on independent online publication College Choice's list of Best LGBT Friendly Colleges and Universities, and the only public university in the top 10. •

HUMANITIES

**BREAKING BARRIERS**

Professor **Victoria Fromkin** was a major figure in the history of the linguistics department and the College. One of the department's first Ph.D. recipients, she was a faculty member from 1965 until her death in 2000, and department chair from 1973 to 1977. Her appointment as UCLA's vice chancellor for graduate programs in 1980 made her the first woman to achieve the rank of vice chancellor in the University of California system. Fromkin also broke barriers at the national level as the first woman to serve as president of the Association of Graduate Schools in the American Association of Universities. •

UNDERGRADUATE EDUCATION  
**WITH HONORS**

For nearly four decades, undergraduates have integrated an honors curriculum with other degree requirements through the College Honors program. Today the program emphasizes building a scholarly community through:

- Collegium courses
- Small seminars
- Honors capstone project
- Specialized advising
- Faculty mentoring
- Study abroad
- Internships
- Community service and entrepreneurial pursuits •

**#1** Graduate clinical psychology program

*U.S. News & World Report  
2019 rankings*

**3,733**

Undergraduate students

**Largest undergraduate major at UCLA**

LIFE SCIENCES

**NEW ERA FOR UCLA PSYCHOLOGY**

The top-ranked UCLA Psychology department is home to renowned faculty pursuing research focused on improving people's lives, in areas including anxiety and depression; substance abuse and addiction; human relationships; stress, resilience and health; early childhood and adolescent development; neuroscience; and cognition and consciousness.

In 2019, the department received a \$30 million commitment from the Anthony and Jeanne Pritzker Family Foundation. Of the gift, \$20 million supports a major renovation of UCLA's Psychology Tower, designed by celebrated Los Angeles architect Paul Revere Williams and completed in 1967. In recognition of the gift, the building was renamed Pritzker Hall. The remainder of the gift established the Anthony and Jeanne Pritzker Endowment for Excellence. •





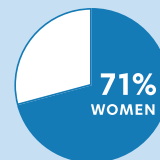
Students tour L.A.'s Olvera Street with **Teofilo Ruiz**, distinguished professor and Robert and Dorothy Wellman Chair in Medieval History, as part of the Fiat Lux course "Ethnicity, Architecture and UCLA."

UNDERGRADUATE EDUCATION  
**NOT YOUR TYPICAL COLLEGE CLASS**

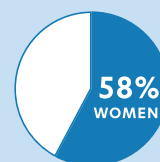
The Fiat Lux seminar program was conceived after the Sept. 11 terrorist attacks as a way for students and faculty to have formative conversations during a moment of national crisis. Since then, hundreds of faculty across campus have joined in meaningful discussions with undergraduates in small-group settings. Faculty share their intellectual passion and expertise in courses on various topics, including, most recently, the social, political, cultural, and scientific nature of disaster preparation, response and recovery.

To help freshmen make the transition from high school, the College's undergraduate education division established the UCLA Cluster Program. Now in its third decade, these yearlong big-idea "cluster" courses, team-taught by faculty from various disciplines, attract around a third of incoming freshmen. Cluster courses explore a single broad topic, such as interracial dynamics or biotechnology, through lenses as varied as biology, philosophy and urban planning. •

LIFE SCIENCES  
**AT A GLANCE:  
WOMEN IN LIFE  
SCIENCES •**



LIFE SCIENCES  
**UNDERGRADUATES**



LIFE SCIENCES  
**GRADUATE  
STUDENTS**

UNDERGRADUATE EDUCATION  
**PREPARING STUDENTS  
FOR SCIENCE JOBS OF  
THE FUTURE**

Nationwide, fewer than half of Science, Technology, Engineering and Math (STEM) majors complete their science degrees, a number that drops to about 25% for underrepresented minority students. A program at UCLA is helping to erase the STEM persistence gap and preparing UCLA's diverse student body for the science jobs of the future.

The Program for Excellence in Education and Research in the Sciences (PEERS) is an academic support program at UCLA for first and second-year science majors from underrepresented and underserved backgrounds. Through programming and a dedicated staff, 85% of PEERS students complete a science degree. Nearly a quarter finish in four years or less, and 90% in five years or less — numbers nearly triple the nationwide average, and equal to majority students at UCLA. •



HUMANITIES  
**HUMANITIES OF THE WORLD**

UCLA's leadership in the study of Japanese literature, language and culture got a major boost in 2019 when the humanities division received the largest gift from an individual donor in its history. A \$25 million gift from Tadashi Yanai, the chair, president and CEO of Japan-based Fast Retailing and founder of clothing company Uniqlo, established the Tadashi Yanai Initiative for Globalizing Japanese Humanities. •

Success rates of students in the College's PEERS program compared with the national average.

**COMPLETE A SCIENCE DEGREE**



**FINISH IN 4 YEARS OR LESS**



**FINISH IN 5 YEARS OR LESS**





**FOR THE GOOD OF**  
**TOMORROW**





## LIFE SCIENCES

**DEFEATING PARALYSIS**

For more than 40 years, **V. Reggie Edgerton** and his research team have been working to upend the prevailing belief that people who are completely paralyzed because of spinal cord injuries can't regain function.

"They have been told that for decades, and still are today," Edgerton said in a news release in 2015. "But this was ridiculous before, and it's even more ridiculous now."

In his Department of Integrative Biology and Physiology lab, Edgerton and his colleagues have shown that the mammalian spinal cord can learn, forget and relearn specific complex motor skills, such as standing and stepping, without any help from the brain.

They've devised interventions that have helped research subjects improve and regain function through electrical stimulation of the spinal circuitry, pharmacological agents and training. With a surgically implanted device to stimulate their spinal cord, people who have been completely paralyzed for more than two years were able to stand independently and voluntarily control movement of their legs.

In 2018, the scientists reported that six people with severe spinal cord injuries regained use of their hands and fingers after undergoing nonsurgical, noninvasive spinal stimulation. •



## PHYSICAL SCIENCES

**DESIGNING MOLECULES TO SAVE LIVES**

**Michael Jung**, a distinguished professor of chemistry and biochemistry who holds the University of California Presidential Chair in Medicinal Chemistry, designs molecules in his laboratory that do not exist in nature. Two molecules he has developed, approved by the U.S. Food and Drug Administration (FDA), are being used to treat men who have a serious form of prostate cancer.

One of those molecules, commercially known as Xtandi, was approved by the FDA in 2012, and has been used by thousands of men with prostate cancer.

The other molecule, marketed as Erleada, was approved by the FDA in 2018 for treating men who have an earlier form of prostate cancer. The data supporting Erleada's effectiveness

and safety were so strong that the FDA decided to end the phase 3 clinical trial two years ahead of schedule. Erleada can be taken before men show any spread of the cancer.

Jung, a member of UCLA's Jonsson Comprehensive Cancer Center, said he decided in 2003 "to change my research group from synthetic chemistry to drug discovery to see if we could create a drug for some human disease. That's a ridiculously grand goal because you can work 40 years in the pharmaceutical industry, know exactly what you're doing and still never produce a drug," he recalled. "But I figured if you're going to have a goal for the rest of your life, it might as well be a big one." •

## UNDERGRADUATE EDUCATION

**LEARNING FROM ARTHUR ASHE '66**

**Patricia A. Turner**, dean and vice provost of undergraduate education and senior dean of the UCLA College, honored Arthur Ashe '66 in a 2016 essay, *Arthur Ashe: A Life Beyond Milestones*, excerpted here:

"We tend to recognize heroes like Arthur Ashe in a kind of shorthand: first African American man to win singles tennis titles at the U.S. Open, the Australian Open, and Wimbledon, the first African American to be selected to represent the U.S. at the Davis Cup and, at UCLA — one of the most famous alums, period.

"But these accolades are a small part of a much richer history. The trajectory of this tennis player's life — from his birth in the Jim Crow South of the 1940s to his untimely death from AIDS in 1993 — brings much of the American century to life, with all the complexity that gets lost when we think of people solely as achievers of milestones.

"Arthur Ashe's life provides a good checklist of the traits needed to become a better individual and to participate in a better, more just society.

"To be sure, much has changed since Ashe's time, but our times are turbulent as

well; issues of race, class, war and disease continue to shape 21st century life. If we can learn from Ashe's life how to sustain personal and professional integrity, how to handle setbacks with grace, and how to play the long game, we will lead lives of distinction and purpose."

As the steward of Arthur Ashe's legacy, the UCLA College is home to The Ashe Legacy Fund and the Ashe Scholarships, which promote service, scholarship and sportsmanship, the values Ashe stood for as a Bruin and throughout his life. •



Ralph J. Bunche (right) pictured with Martin Luther King Jr. and Coretta Scott King at the U.N. in 1964.

SOCIAL SCIENCES

**'FATHER OF PEACEKEEPING'**

UCLA alumnus Ralph J. Bunche — the “Father of Peacekeeping” — shaped a legacy built on unifying others that continues to influence generations. Among his numerous honors, Bunche was the first African American and person of color to receive the Nobel Peace Prize, awarded in 1950 for his work as a U.N. diplomat. Bunche’s contributions continue to be celebrated worldwide, particularly his work in mediation, decolonization, human rights and civil rights. UCLA’s Bunche Hall and the Ralph J. Bunche Center for African American Studies are named in his honor. •



Psychobiology major Ahmad Elhajja (front row, center) with members of the International Collegiate Health Initiative.

UNDERGRADUATE EDUCATION

**STUDENT LAUNCHES MOBILE HEALTH CLINIC**

Last fall, more than 40 community members and their children in southeast Los Angeles County received free medical screenings at the first mobile health clinic hosted by the UCLA student-run International Collegiate Health Initiative. Psychobiology major Ahmad Elhajja founded the initiative two years ago to increase access to affordable, high-quality medical care in low-income and refugee communities in Los Angeles through mobile community health clinics and social advocacy.

The first clinic was made possible by Elhajja’s Donald A. Strauss Foundation scholarship — the only Strauss scholarship awarded to a UCLA student in 2019. The annual scholarship awards \$15,000 to California college students to help them implement a public service project.

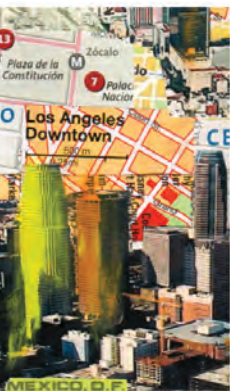
Elhajja drew inspiration for the project from two aspects of his youth in Anaheim — growing up frequently sick without consistent health insurance and doing volunteer work assisting Arab and Muslim refugees.

The ICHI’s ultimate goals are to raise enough money for a mobile clinic van and to expand to other cities in California or even overseas. •

HUMANITIES

**EMERGING HUMANITIES: URBAN HUMANITIES**

As cities expand and evolve, so must our methods of understanding and improving them. Urban Humanities faculty representing areas including the humanities, architecture, urban design and public policy study the arts, history and culture of global cities on the Pacific Rim to develop new approaches to urban challenges. •



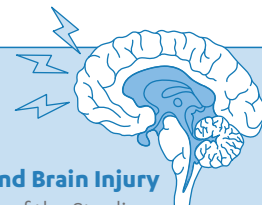
LIFE SCIENCES

**BRAIN FRONTIER**



**Anxiety and Depression**

Distinguished professor of psychology **Michelle Craske** is advancing understanding of what makes some people prone to anxiety and depression by studying biomarkers, behaviors and thinking patterns associated with these conditions. Her work is leading to the development of more effective treatments. Craske is also an executive committee member of the UCLA Depression Grand Challenge, a campuswide initiative that aims to cut the global burden of depression in half by 2050.



**Post-Traumatic Stress and Brain Injury**

**Michael Fanselow**, holder of the Staglin Family Chair in Psychology at UCLA and director of UCLA’s Staglin Music Festival Center for Brain and Behavioral Health, is studying the effects of traumatic injury on the brain region called the amygdala. His recent findings show that the brain processes fear differently after a concussion-like injury and raise the possibility of restoring function in the amygdala after such an injury, potentially through behavioral therapy or a pharmaceutical treatment.

PHOTOS: (BUNCHE) GETTY IMAGES; (ELHAJJA) REED HUTCHINSON/UCLA; (HUMANITIES) COURTESY OF DANA CUJF



SOCIAL SCIENCES

**CULTIVATING KINDNESS**

In 2019, UCLA College became home to the world's first interdisciplinary research institute on kindness. Established with a \$20 million gift from philanthropists Jennifer and Matthew Harris '84, the UCLA Bedari Kindness Institute is a research hub for projects that examine the social and physical mechanics of kindness, and how kindness can be taught and used to create societies that are more humane.

"In the midst of current world politics, violence and strife, the UCLA Bedari Kindness Institute seeks to be an antidote," **Darnell Hunt**, dean of the UCLA division of social sciences, said.

Led by director and anthropology professor **Daniel Fessler**, the institute has researchers from all over campus

studying questions about kindness. UCLA anthropologists are examining how kindness spreads from person to person and group to group, UCLA sociologists are analyzing how to encourage people who regularly act unkindly to engage in kind acts instead, and UCLA psychologists are exploring how kindness can improve people's moods and reduce symptoms of depression. Others are pursuing research on how mindfulness changes neurobiology and behaviors, which can influence kindness and people's well-being.

The institute also will provide mindfulness training to students, faculty, staff and underserved Los Angeles communities, and an annual conference will share new discoveries in kindness research. •



PHYSICAL SCIENCES

**JACOB BJERKNÆS PUTS UCLA ON THE WEATHER MAP**

Before there was Al Roker, Sam Champion, or even the Weather Channel, there was professor **Jacob Bjerknæs**. This Swedish native is considered one of the pioneers, along with his father Vilhelm Bjerknæs, of modern-day weather forecasting. Bjerknæs brought his trailblazing spirit to Westwood in 1940, founding UCLA's Department of Meteorology, known today as the Department of Atmospheric & Oceanic Sciences. The department has been revolutionizing weather research ever since.

Bjerknæs is credited with discoveries such as the polar-front theory of cyclones, which is widely used today when looking at weather fronts. Such knowledge was vital in World War II, when the U.S. Air Force turned to Bjerknæs to instruct its weather officers.

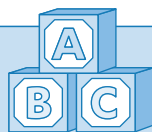
It was at UCLA that Bjerknæs discovered that the weather phenomenon of El Niño is not contained to Peru. His work led to an understanding of how oscillating temperatures between the ocean and atmosphere in the east-central Equatorial Pacific impacts weather globally. Much of modern-day weather forecasting can be credited to Bjerknæs. •

COLLEGE  
**CENTENNIAL  
CAMPAIGN**

Two spectacular light shows on Royce Hall bookended the start (2014) and finish (2019) of the Centennial Campaign for UCLA, one of the most successful fundraising campaigns ever undertaken by a public university. The campaign raised \$5.49 billion, \$650 million of which was raised by UCLA College. •



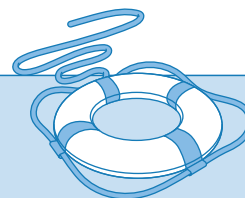
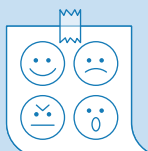
PHOTOS: (BJERKNÆS) UCLA SPECIAL COLLECTION



**Childhood Development**

Assistant professor of psychology **Jennifer Silvers** seeks to understand the significant emotional and social changes occurring throughout childhood and adolescence. Her focus is on how development interacts with individual differences to predict how people regulate their emotions. She is applying her research to real-life challenges such as reducing childhood obesity rates.

Assistant professor of psychology **Bridget Callaghan** studies how early life experiences influence interactions between physical and mental health across the life span. Her research aims to improve mental and physical health treatments through a deeper understanding of psychological functioning, trauma history and biology.



**Addiction**

Psychology professor **Lara Ray** combines brain imaging, pharmacology and genetics to advance treatment options for addiction. Her lab is conducting large-scale clinical trials to improve treatments for alcoholism and smoking cessation. **Alicia Izquierdo**, associate professor of psychology and a member of UCLA's Brain Research Institute, studies changes in certain brain regions that could explain why some people make rational decisions while others make impulsive and reckless ones. •



SOCIAL SCIENCES

**TRUE COST OF MASS INCARCERATION IN LOS ANGELES**

The disparate impact of the Los Angeles jail system — the largest in the nation — gets an in-depth analysis with Million Dollar Hoods, a website and digital mapping project. Led by **Kelly Lytle Hernández**, the Thomas E. Lifka Chair in History and director of the Ralph J. Bunche Center for African American Studies, the project maps how much money the Los Angeles County Sheriff’s Department and the Los Angeles Police Department spend per neighborhood to incarcerate residents in county and city jails.

“L.A.’s nearly billion-dollar jail budget is largely committed to incar-

cerating residents of just a few neighborhoods,” said Lytle Hernández, who was awarded a MacArthur Fellowship in September 2019. “In some neighborhoods, such as Lancaster, Palmdale and Compton, tens of millions of dollars have been spent since 2010.”

With the project, Lytle Hernández adds, “We are committed to also sharing the personal experiences that residents of L.A.’s Million Dollar Hoods have had with arrest and incarceration, allowing for a fuller accounting of the social costs of incarceration to families, communities and society at large.” •

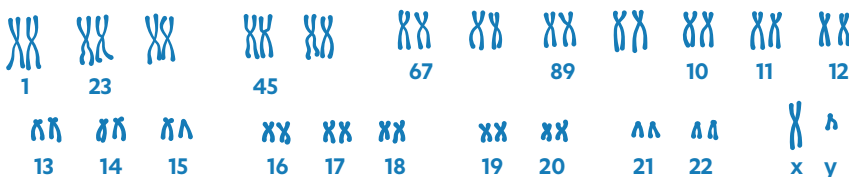
LIFE SCIENCES

**SOCIETY AND GENETICS**

From food and medicine to sexuality and emotions, there has been an avalanche of new findings in genetics. Along with new discoveries come new ethical, legal and societal challenges and questions. In 2001, then-UCLA Chancellor **Albert Carnesale** seeded the vision that would eventually become the Institute for Society and Genetics.

Housed within the UCLA College’s Life Sciences Division, the Institute’s faculty

expertise spans human genetics, ecology, philosophy, sociology, anthropology, psychiatry, psychology, history, business, public policy and law. Among the center’s research are issues concerning genetic research in Indigenous communities, generational impacts of environmental pollutants, and climate-mediated evolution and adaptation. In 2011, the Institute launched the human biology and society major, which became the fastest growing life sciences major at UCLA. •



UNDERGRADUATE EDUCATION  
**LEARNING BY SERVING**

A cornerstone of the UCLA undergraduate experience has been connecting students’ research training with the needs of the local community.

The UCLA Center for Community Learning provides community-engaged experiences by building collaborations between faculty and students and community partners from preschools to the Los Angeles Superior Court.

In 2019, the Center partnered with the chancellor’s office to create the Chancellor’s Award for Community-Engaged Research to develop courses that bring research to L.A. community organizations. •



Students collect water samples as part of a research project.

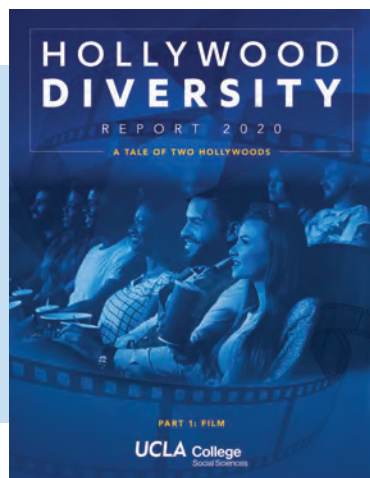
SOCIAL SCIENCES

**E-FORUM CONNECTS THE COMMUNITY**

Dean of Social Sciences **Darnell Hunt** launched an e-forum called LA Social Science in 2018. The forum provides a space for members of the public to interact with UCLA faculty, students, staff and community partners engaged in research into challenges that confront the L.A. region. Subscribers receive updates on the latest research and can post their perspectives and stories on the site at [lasocialscience.ucla.edu](http://lasocialscience.ucla.edu). •







## SOCIAL SCIENCES

**REPRESENTATION PAYS**

For seven years, the annual Hollywood Diversity Report has provided proof of a trend that has helped change inclusion in show business.

As the 2020 report adds another year of data that shows diverse casts lead to a better bottom line, there are indications that the film industry is starting to get the message. The numbers of acting jobs for women and people of color are getting closer to being proportionate with the U.S. population overall. This year's report focuses on the top-grossing films of 2018 and 2019.

Researchers also found that women and minorities continue to be severely underrepresented among writers, directors and Hollywood executives at the major studios where decisions are made about which films to greenlight, who will direct them, and how they will be marketed.

"That begs the question: Are we actually seeing systematic change, or is Hollywood just appealing to diverse audiences through casting, but without fundamentally altering the way studios do business behind the camera?" said **Darnell Hunt**, dean of UCLA College's division of social sciences, who co-authored the report with **Ana-Christina Ramón**, the division's director of research and civic engagement. •

## UNDERGRADUATE EDUCATION

**ENSURING STUDENT SUCCESS**

Since 1971, UCLA has been home to the nation's largest university-based student diversity program. The Academic Advancement Program (AAP) serves more than 5,600 students, many from historically underrepresented populations. AAP promotes academic achievement through tailored advising, peer learning, summer bridge programs and student scholarships.

Within AAP is the Center for Community College Partnerships (CCCP), which works with community college administrators, faculty and staff to create academic support programs, improve students' academic preparation and competitiveness for admission to UCLA, and increase the overall diversity of UCLA's transfer admit pool. CCCP has been recognized in particular for its efforts to increase transfer rates of Latino community college students. •

## PHYSICAL SCIENCES

**THE FUTURE OF MOLECULAR RESEARCH**

UCLA professors of chemistry **Hosea Nelson** and **Jose Rodriguez** have made profound discoveries through their use of electron microscopy, a field undergoing a revolution so significant that it was recognized through the 2017 Nobel Prize in Chemistry.

MicroED, a new approach to electron microscopy honed by professor of biological chemistry **Tamir Gonen**, is transforming how scientists practice electron diffraction of biomolecular crystals under cryogenic conditions. Rodriguez was part of the team that first applied MicroED to determine the unknown 3D structures of macromolecules. He has continued to refine the method, allowing for the structures of molecules to be determined from a collection of just a few thousand molecules.

Nelson's interest in small molecule structures led to a collaboration with Gonen that resulted in a landmark article describing the powerful application of MicroED to small molecule structure determination. Nelson envisioned that MicroED could reveal structures from complex and heterogeneous crystalline



Hosea Nelson (above);  
Jose Rodriguez (right)

mixtures, the kind essential for progress in synthetic, pharmaceutical and medicinal chemistry. This type of sample often languishes in laboratories without yielding structures, unsuitable for older, more traditional methods.

The structures of many natural products, some first identified decades ago, remain unknown. With MicroED, Rodriguez and Nelson are mining these structures, reviving the possibility of using such compounds as starting points for the development of potential antibiotics, anti-cancer agents, or treatments for neurological disease. •



Professor **Ursula Heise**, UCLA's Marcia Howard Chair in Literary Studies, is an expert on environmental art and narratives.

## HUMANITIES

**EMERGING HUMANITIES: ENVIRONMENTAL HUMANITIES**

Storytelling techniques taught in the humanities are often missing from the public dialogue around environmental issues in our communities. Environmental humanities brings together the sciences and the humanities, creating a dynamic field that is transforming how we relate to our experience of the urban and natural worlds. As policymakers, business and community leaders, and scientific experts, environmental humanities graduates use their training to help mitigate society's negative impact on our landscapes. •



## HUMANITIES **EMERGING HUMANITIES: DIGITAL HUMANITIES**

Digital humanities scholar Leia Yen '19 is the first-ever UCLA transfer student recipient of the Marshall Scholarship. Yen earned her bachelor's degree in English with a double minor in global studies and digital humanities. Her solo-authored digital thesis titled "Digital Syria" was the first of its kind at UCLA and examined Western society's narrative about the Syrian refugee crisis. For her digital humanities minor, she worked on Drone Wars, a group project that analyzed data on American drone strikes in the Middle East. Yen plans to use her award to pursue two master's degrees in digital humanities, and digital culture and society at King's College London. •

## UNDERGRADUATE EDUCATION **RECORD-SETTING SUPPORT**

In response to the rapid transition to remote learning during the COVID-19 pandemic, the Bruin Tech Fund raised much-needed support for financially vulnerable students who normally rely on campus resources for access to technology. More than 1,000 donors came together to raise nearly \$200,000 through UCLA's online giving platform, SPARK, setting a UCLA SPARK record. •



**1,000** Donors  
**\$200,000** Raised

## LIFE SCIENCES **REVOLUTIONIZING GENE THERAPY**

Stem cell gene therapy offers new hope for treatments — and even cures — for a range of genetic conditions. **Donald Kohn** in the Department of Microbiology, Immunology & Molecular Genetics is testing novel approaches to treating genetic diseases such as Sickle Cell Disease (SCD) and Severe Combined Immune Deficiency (SCID), also known as "bubble baby disease." In these diseases, an inherited mutation in a single gene causes blood cells in

bone marrow to malfunction. Today, more than 40 SCID babies are living infection-free thanks to a new approach developed in Kohn's lab that doesn't rely on a perfectly matched stem cell donor. Instead, the patient's own stem cells are extracted, a normal copy of the relevant gene is added, or that gene is fixed, and these are transplanted back to the patient. These "self" transplants are safer since the patient's cells are a perfect match. •



Dr. Donald Kohn (left) treats infant for "bubble baby disease" in 2016.

PHOTOS: (YEN) EL CAMINO COLLEGE; (KOHN) UCLA BROAD STEM CELL RESEARCH CENTER; (ACTIVISM) PHOTOS COURTESY OF UCLA INSTITUTE FOR RESEARCH ON LABOR AND EMPLOYMENT

## SOCIAL SCIENCES **A HISTORY OF ACTIVISM**



**UCLA Pow Wow is an annual campus event held by the American Indian Student Association whose mission is to inform UCLA students about the native community on campus and to correct negative stereotypes about American Indian people in society.**

## **ETHNIC STUDIES AT UCLA**

Since their birth in the turbulent '60s, UCLA's four ethnic studies centers — UCLA American Indian Studies Center, UCLA Asian American Studies Center, Ralph J. Bunche Center for African American Studies at UCLA and UCLA Chicano Studies Research Center — have fueled campus diversity and the fight for equity and social change on campus and beyond. Using data, research, archives, art, storytelling and more, the centers help move the understanding of Latinos, African Americans, Asian Americans and Native people from the margins to the mainstream. •

## **FOR THE WORKERS**

Since its founding in 1945, the UCLA Institute for Research on Labor and Employment (IRLE) has played an important role in the intellectual life of the university and in the national conversation on labor and employment issues.







**HUMANITIES**  
**ARCHIVAL AND ARCHITECTURAL TREASURE**

The UCLA William Andrews Clark Memorial Library — an archival and architectural treasure — is located in the West Adams neighborhood of Los Angeles. The rare book and manuscript library specializes in the study of England and the Continent from the Tudor period through the 18th century. Other subject strengths include Oscar Wilde, book arts, and Montana and the West. The Clark is open to students, professors and scholars throughout the world, and welcomes the public to chamber music concerts, theatrical performances and lectures. •



**PHYSICAL SCIENCES**  
**PROMISE OF CHEMISTRY**

**Heather Maynard**, professor of chemistry and biochemistry and the Dr. Myung Ki Hong Professor in Polymer Science, is working on the synthesis of next-generation polymers for application in medicine, sustainable agriculture and food production. One discovery out of her lab enabled her to stabilize a protein molecule secreted by our cells to trigger the body’s healing processes, making it a more suitable candidate for medical applications. •

**LIFE SCIENCES**  
**CONQUERING DUCHENNE MUSCULAR DYSTROPHY**

At UCLA’s Center for Duchenne Muscular Dystrophy, leading life scientists and medical researchers are working across disciplines to conquer the most common lethal genetic disease of childhood. Duchenne Muscular Dystrophy is a muscle-wasting disorder affecting approximately 1 in 5,000 boys. As the first comprehensive Duchenne clinic in the Western U.S., the Center is a hub for research, clinical care and treatments that are improving — and will potentially extend — the lives of those afflicted.

Duchenne has no cure, but ongoing research and clinical trials offer glimmers of hope. Among recent breakthroughs is a gene editing platform developed by UCLA Ph.D. student Courtney Young that can be used to restore an essential protein in half of all DMD patients. Young and her faculty adviser **April Pyle**, associate professor of microbiology, immunology and molecular genetics, went on to establish MyoGeneBio, a startup aimed at developing cutting-edge genetic therapies for muscle diseases. •



UCLA professors Huan Meng, Melissa Spencer and April Pyle.

PHOTOS: (CLARK) ELENA ZHUKOVA/UNIVERSITY OF CALIFORNIA; (MAYNARD) COURTESY HEATHER MAYNARD; (DUCHENNE) REED HUTCHINSON/UCLA



Labor historian and professor **Irving Bernstein** teaching a class for steelworkers in the 1950s.

**Abel Valenzuela Jr.**, professor of Chicano studies, urban planning and labor studies, and special adviser to the chancellor on immigration policy, has led the Institute since 2016. Valenzuela’s pivotal collaboration on a national study on day laborers opened new dialogue on a previously unstudied labor market. •

**OUR STORIES, OUR IMPACT**

Through the IRLE, a multimedia traveling exhibit called “Our Stories, Our Impact” was born. One of four UCLA Centennial Initiatives, the exhibit features original portraits and short documentaries anchored by stories of present and former Bruins who come from communities and neighborhoods where access to higher education was limited. The exhibit selection process was conducted in partnership with the ethnic studies centers on campus to reflect the rich history of mobilization at UCLA.



UCLA alumni Robert Singleton, the Bunche Center’s first director, and Helen Singleton are among those featured in the exhibit. As original members of the Freedom Riders, they challenged segregation through nonviolent resistance in the South in 1961, facing intimidation, beatings, arrests, firebombing and other forms of violence. •

*Robert Singleton (1961)*  
by artist Gabe Gault



Photo featured in "From Brooklyn Avenue to Cesar Chavez: Jewish Histories in Multiethnic Boyle Heights," one of dozens of exhibitions mounted through Mapping Jewish L.A.

## HUMANITIES

### THE STORIES OF L.A.'S JEWISH COMMUNITIES

Some might consider the Mapping Jewish Los Angeles project to be a sort of time machine. The multimedia project, established in 2011 at the UCLA Alan D. Leve Center for Jewish Studies, does indeed seem to transport users through time as it cultivates an understanding of how the Jewish community has evolved in Los Angeles.

The collaborative platform for scholars, genealogists, students and families is the brainchild of **Todd Presner**, chair of UCLA's Digital Humanities Program and Ross Professor of Germanic Languages and Comparative Literature. Through digital mapping, users travel along a Los Angeles timeline, visiting Jewish neighborhoods and communities over the decades. Interactive historical maps and cultural artifacts procured from the UCLA Library and community archives add to the experience. •

## COLLEGE UPWARD MOBILITY



More than **1/3** of UCLA undergraduates earning a degree in 2017-18 were **first-generation** college graduates.



More than **50%** of undergraduates received **need-based scholarships** or grant aid in 2018-19



**58%** of 2018-19 graduating class had **no student loan debt**



**35%** of undergraduates receive a **Federal Pell Grant** in 2018-19

## SOCIAL SCIENCES

### PREVENTING HOMELESSNESS IN L.A.

Predictive modeling could help address Los Angeles County's homelessness crisis, according to research from the California Policy Lab at UCLA and University of Chicago's Poverty Lab. Launched in 2016, the California Policy Lab pairs UCLA and other UC researchers with policymakers to solve urgent social problems, including homelessness, poverty, education inequality and more.

Each year, 2 million adults receive housing, health and emergency services from L.A.

County. About 2% of them will become homeless. Using four years of county data about those services, researchers developed a model that predicted, with nearly 50% accuracy, which residents were most likely to become homeless in 2017. The research informed an action plan recommending that the county use predictive models to intervene with at-risk adults. The team continues to examine modeling as a tool for tailoring public health and social services for this vulnerable population. •

## UNDERGRADUATE EDUCATION SCHOLARSHIPS

More UCLA students can attend their dream school free of financial stress thanks to the generosity of donors who fund dozens of scholarships for students in the College each year.



### Culverson Scholars

Every year since 1998, when the full-ride scholarship was established by Thelma L. Culverson, one student from University High School in Los Angeles has been selected as a Culverson Scholar. Culverson Scholars are pictured above with Carol Block (front row, left), Dean Patricia Turner (front row, third from left), Thelma Culverson (back row, sixth from right), and Scholarship Resource Center Director Angela Deaver-Campbell (back row, fourth from right).



### Arthur Ashe Jr. Scholarship

Senior Maripau Paz is the first recipient of the Arthur Ashe Jr. Scholarship, established in 2019 to recognize and support students who exemplify the attributes, values, commitment to service and pioneering spirit of tennis great Arthur Ashe '66, one of UCLA's most influential and iconic alumni. •



LIFE SCIENCES

**A PIONEER IN ORGAN TRANSPLANT MEDICINE**

**Paul Ichiro Terasaki**, a pioneer in organ transplant medicine, was the first person to devise a method to perform “tissue typing” and to develop antibodies to be used in that procedure, which assesses the compatibility of organ donors and recipients.

Terasaki’s contributions to solid-organ transplantation over 50 years are significant.

For more than four decades, kidney, heart, liver, pancreas, lung and bone marrow donors and recipients were typed using the tissue typing test he developed.

Terasaki, who earned three degrees at UCLA, published more than 900 scientific articles and trained some 100 postdoctoral scholars at UCLA. He was awarded the UCLA Medal, the university’s highest honor, in 2012. He died in 2016 at age 86.

“Paul was a groundbreaking scientist, an inspiring alumnus to our students and a great friend to UCLA,” said Victoria Sork, dean of life sciences in the UCLA College. “His work has saved countless lives, and his generosity has allowed future generations to further his passions. I am so proud to have his name forever associated with the life sciences at UCLA.”

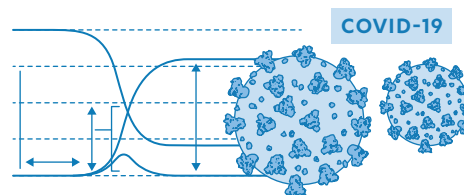
Beginning with a \$10 gift in 1972, Terasaki donated more than \$58 million to UCLA, including \$50 million toward the state-of-the-science Terasaki Life Sciences Building.

“I owe my whole career to UCLA,” Terasaki said in a 2010 interview. “UCLA gave me the opportunity to do the research that led to the development of tissue typing. At many other universities, I would not have had that kind of freedom in the lab.” •

PHYSICAL SCIENCES

**MATH IN EVERYDAY LIFE**

Time and time again, **Andrea Bertozzi**, the Betsy Wood Knapp Chair for Innovation and Creativity and director of Applied Mathematics, has demonstrated the power of math in everyday life. Her research subjects are far-ranging, from studying the shock waves that cause the tears of wine phenomenon (those “legs” that creep up and down the sides of wineglasses), to using mathematical modeling to provide insights into COVID-19 transmission rates and how COVID-19 relates to domestic violence and crime. •



SOCIAL SCIENCES

**TAKING THE PULSE OF THE AMERICAN ELECTORATE**

After demonstrations, marches and protests broke out in late May over police brutality, Nationscape, a weekly survey of more than 6,000 Americans, began asking questions about support for law enforcement.

By June 3, Nationscape data had revealed a two-week drop in the number of people across all racial groups with somewhat favorable or very favorable perceptions of the police, including a drop from 72% to 61% among white respondents. Among Black respondents, 38% said they had a somewhat or very favorable view of police, down 9 percentage points from the previous week.

Launched in July 2019, Nationscape is a partnership between Washington, D.C.-based Democracy Fund and UCLA political science professors **Chris Tausanovich** and **Lynn Vavreck**, who holds the Marvin Hoffenberg Chair in American Politics and Public Policy. The project tracks the state of the American electorate when it comes to often-debated policies like raising the minimum wage or building a border wall.

By the time Americans cast their vote in the 2020 presidential election in November, Nationscape will have conducted 500,000 interviews, with respondents from every congressional district in the country. •

LIFE SCIENCES

**CONFRONTING CLIMATE CHANGE**

UCLA scientists are leading a \$10 million project to help California officials make ecologically wise decisions as the state continues to confront the effects of climate change. The state-funded California Conservation Genomics Project brings together conservation biologists, geneticists, ecologists and climate scientists.

“This project has the potential to revolutionize how we manage our

land,” said **Bradley Shaffer**, distinguished professor of ecology and evolutionary biology and director of UCLA’s La Kretz Center for California Conservation Science.

The initiative will inform state officials as they make decisions to ensure that California’s people, places and wildlife are more resilient to climate change. •



PHOTO: (ROYCE) REED HUTCHINSON/UCLA



**Learn More:**

<https://www.voterstudygroup.org>

# 100 YEARS OF PHILANTHROPY

By Margaret MacDonald

**THROUGHOUT ITS HISTORY, THE UCLA COLLEGE HAS GARNERED SUPPORT FROM A COMMUNITY OF DONORS WHOSE PHILANTHROPY HAS HELPED PROPEL THE UNIVERSITY INTO THE TOP ECHELONS OF HIGHER EDUCATION INSTITUTIONS, PUBLIC OR PRIVATE. HERE'S A LOOK BACK AT THE FIRST HUNDRED YEARS OF PHILANTHROPY TO THE COLLEGE.**

In 1928, the ink was barely dry on the official document changing the university's name from "The Southern Branch" to the University of California at Los Angeles. Students were still piling into classrooms at the Vermont Avenue location, a semester's tuition cost around \$25, and the first four majestic buildings of the Westwood campus were under construction.

## **The first endowed chair**

That year, Mr. and Mrs. C. N. Flint made history with their gift to the College of Letters and Science, establishing UCLA's first-ever endowed faculty chair. The Flints were among the first in a long line of philanthropists to support the new university. Not even the Great Depression of the 1930s could stifle the newfound pride of Angelenos, who no longer had to travel north to Berkeley to attend a public university.

## **Rare books and Janss Steps**

In the early years, private gifts continued to add depth and breadth — and even buildings — to UCLA's budding education and

research enterprise. Donations included a major gift for the construction of Kerckhoff Hall, which served as the university's first student union, and the bequest of William Andrews Clark Jr.'s estate and 13,000-volume rare book collection. Other donations included 150 eucalyptus trees, a pipe organ for Royce Hall, the 100-foot flagpole at the east end of the Quad, and \$50,000 toward the construction of Janss Steps.

## **The Progress Fund**

During the economic boom following WWII, members of the Alumni Association established the Progress Fund as UCLA's first official vehicle for accepting and administering private contributions. By 1955, the Progress Fund had received gifts totaling nearly \$160,000 and created an endowment fund of more than \$80,000. In 1959, the Progress Fund raised more than \$2.2 million from alumni to construct Pauley Pavilion through a campaign described as "an impetus to alumni morale and spirit and a catalyst for bringing members of the

UCLA family together." In 1966, the Progress Fund was renamed The UCLA Foundation by Chancellor Franklin D. Murphy.

## **Building fundraising capacity**

Funding from the state of California, which provided the core resources for the basic educational operation of all the UC campuses, began to decline in the late 1960s and dropped off sharply in 1978 with the approval of Proposition 13. Despite this, UCLA was ranked among the nation's top universities by the early 1980s.

At that time, the university's fundraising program was bringing in under \$40 million annually, much less than the private institutions against which UCLA had begun to compete for the best faculty and students. To maintain UCLA's momentum and strengthen its competitiveness, campus leaders decided the time had come to invest in and build capacity for large-scale fundraising campaigns.

Take a closer look at UCLA's three major fundraising campaigns undertaken over the last 37 years. >>





# THREE CAMPAIGNS THREE CHANCELLORS

**2014-2019**

## THE CENTENNIAL CAMPAIGN FOR UCLA

The most recent campaign, The Centennial Campaign for UCLA, set new records, raising \$5.49 billion universitywide. Of this, the College raised more than **\$650 million**, adding significant endowed support for faculty chairs, research centers, undergraduate scholarships and graduate fellowships. See page 40 for more on the success of the Centennial Campaign.

*“Philanthropy is not a substitution for state support. It is what empowers UCLA to go above and beyond. When we launched the Centennial Campaign for UCLA in 2014, our goal was to celebrate the university’s 100th year and generate support to carry this influential institution into its second century. We knew Bruins and friends the world over would respond with passion and enthusiasm, but we couldn’t have imagined how successful it would be.*

*“UCLA is now more prepared than ever to achieve research breakthroughs, create more opportunity and face challenges, including those brought about by the COVID-19 pandemic.*

*“We are so grateful for the continued support as we apply campus resources and expertise to address this pandemic locally and globally.”*

- Gene Block, 2020 (Chancellor, 2007-present)

**“PHILANTHROPY IS NOT A SUBSTITUTION**

**FOR STATE SUPPORT. IT IS WHAT EMPOWERS**

**UCLA TO GO ABOVE AND BEYOND.”**

- Chancellor Gene Block

**1995-2005**

## CAMPAIGN UCLA: WHERE GREAT FUTURES BEGIN

UCLA’s second major campaign, Campaign UCLA: Where Great Futures Begin, raised **\$3.05 billion** from 1995 to 2005, of which \$327 million was raised by the College. At the time, it was the most successful fundraising campaign in the history of higher education.

*“My [goal] is to get people excited about UCLA and where it’s headed. To be confident that it’s got a sense of direction, that it’s worth investing in, that it’s excellent and [that] excellence is expensive.*

*“What I feel most strongly about is making sure that UCLA maintains an upward trajectory in all three aspects of what makes a research university: education, research and service.”*

- Albert Carnesale, 2005 (Chancellor, 1997-2006)

**1983-1988**

## THE UCLA CAMPAIGN

The UCLA Campaign was launched in 1983, the university’s first major fundraising campaign in support of academic programs. The campaign concluded in 1988, having tripled annual private giving and raised **\$373 million**, far surpassing its original goal.

*“To achieve its destiny, UCLA will need additional financial support from both the Legislature and private sources. This means UCLA is going to have to tell more people what we are doing and why we are doing it.*

*“We are going to have to rededicate ourselves to the task of making the public aware that UCLA’s vision of its future is a vital part of the future envisioned for our state and nation.”*

- Charles Young, 1968 (Chancellor, 1968-1997)

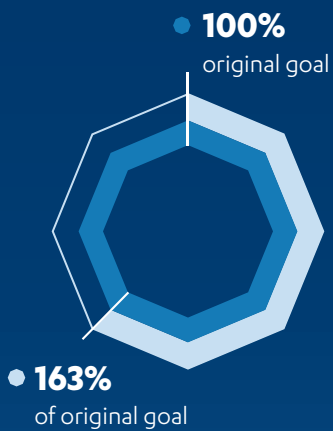
# CENTENNIAL CAMPAIGN FUELS GIVING

The CENTENNIAL Campaign for **UCLA**

## PHILANTHROPIC INVESTMENT THAT WILL PAY OFF FOR DECADES

UCLA College alumni, faculty and friends invested more than **\$650 million** – doubling the College’s overall endowment – over the course of the Centennial Campaign, which ended in December 2019. The benefits of this investment will reverberate for decades to come across all five divisions: humanities, life sciences, physical sciences, social sciences and undergraduate education.

In the past, state funds covered almost every dollar UCLA needed to operate, but today only 7% of the university’s total budget comes from the state’s general fund. This means that private philanthropy will continue to be vital to keep the College at the forefront of discovery, societal impact, affordable first-rate education and upward economic mobility.



## MORE THAN \$650 MILLION

## 35,000+ DONORS

## 25,000+ first-time donors

## 73,500 GIFTS

## 107 gifts of \$1 million or more

### ENDOWED CHAIRS

The College competes with the nation’s top universities for leading faculty. Key to this competitiveness is the ability to award endowed faculty chairs, which are a prestigious honor, recognize exceptional faculty members for their past and potential scholarly contributions, and provide a guaranteed source of funds for research. At a public research university like UCLA, they are a particularly important recruiting tool.

# 60

New endowed chairs  
established or committed

Humanities: **13**  
Life Sciences: **6**  
Physical Sciences **18**

Social Sciences **21**  
Undergraduate Education **2**



## ENDOWMENTS

Endowments offer a reliable, renewable source of funds that help a university maintain its position when other sources of revenue, such as research support or state funding, may fluctuate.

With endowments, a portion of the return on the investment is used for designated purposes, while the remaining portion of the return is reinvested into the principal sum to create market growth. In this way, an endowment serves immediate needs and creates financial security for the future.

**\$300M**

Endowed funds raised for UCLA College during Centennial Campaign

### UCLA College divisions

- Humanities
- Life Sciences
- Physical Sciences
- Social Sciences
- Undergraduate Education



## CAPITAL GIFTS

Capital gifts during the campaign provided upgraded facilities for students and faculty, including Pritzker Hall (pictured), which houses the psychology department, and the La Kretz Botany Building.

## STUDENT SUPPORT

An ongoing campus priority is expanding scholarships and fellowships that make UCLA more affordable for a greater diversity of students. Undergraduate scholarships open pathways for students from all backgrounds to pursue their dreams and graduate from UCLA with little to no student loan debt. Graduate fellowships attract top scholars to campus to pursue their graduate training and teach undergraduates.

**\$89M**  
funds raised

**220**  
new scholarships

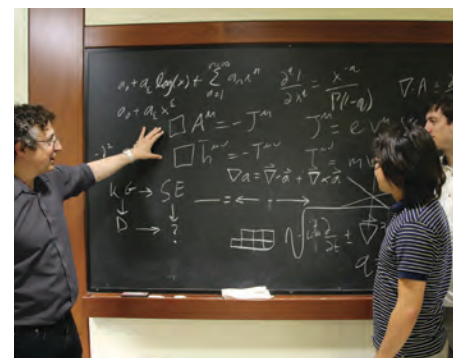
## NEW RESEARCH CENTERS AND INSTITUTES

Major gifts established a number of new research centers and institutes in the College, which are bringing together experts from various fields for scientific and scholarly research and to share those advances with policymakers and the public.

- Mani L. Bhaumik Institute for Theoretical Physics
- Alan D. Leve Center for Jewish Studies
- Luskin Center for History and Policy
- Pourdavoud Center for the Study of the Iranian World
- UCLA Bedari Kindness Institute
- UCLA Stavros Niarchos Foundation Center for the Study of Hellenic Culture



Shirley and Ralph Shapiro pictured with Bami Aleshe (center), recipient of their four-year Life Sciences Scholarship.



Bhaumik Institute director and physics professor Zvi Bern (left) with students.





# 100 YEARS OF UCLA GRADUATES

*While venues may have changed, for 100 years the UCLA College Commencement has been a rite of passage for graduating Bruins.*







**First row, left to right:** Students selling yearbook reservations, 1920s; the Commencement crowd at the Los Angeles Tennis Center, 1996; cheering in Pauley Pavilion, 2018 (Matt Harbicht/UCLA); celebrating at the Inverted Fountain, 2012 (Kyle Alexander/UCLA).  
**Second row:** Graduates file into the Los Angeles Coliseum, 1940; Commencement speakers Gary Knell '75, CEO of Sesame Workshop, and Cookie Monster, 2005; graduates, 2018 (Matt Harbicht/UCLA).  
**Third row:** Commencement procession on the Vermont Avenue campus, 1920; view of Commencement stage on Dickson Court North, circa 1955; Andrew Horn and Lawrence Clark Powell at graduation, undated; view toward the stands at Commencement, 1970; graduates

with faculty member, 1979; graduate adjusting mortarboard, 2018 (Matt Harbicht/UCLA).  
**Fourth row:** Students filing in for Commencement, 1940s; student receiving degree, 1964; graduates celebrate, 1982; Kareem Abdul-Jabbar '69, Nobel laureate Randy Schekman '71 and Chancellor Gene Block, 2014 (Reed Hutchinson/UCLA).  
**Fifth row:** Graduates, 1930; students filing into Commencement, 1940s; Nobel laureate Ralph Bunche '27 delivering Commencement address at Hollywood Bowl, 1950; mortarboard decorated with peace sign, 1970s.  
**Sixth row:** Graduates, 1950s; Commencement in Pauley Pavilion, 1968; Graduates at Commencement, 1974.  
 Photos courtesy of UCLA Library Archives except where indicated.



## VIRTUAL CELEBRATION FOR THE CLASS OF 2020

The UCLA College hosted its first-ever virtual celebration for graduates June 12 featuring an address by actor, social justice activist, bestselling author and social media star George Takei '60 M.S. '64. The College worked with graduating students to create the virtual event after the state banned large gatherings due to the COVID-19 pandemic. The event marked the conferral of degrees for this year's centennial class and the launch of the celebration of the Class of 2020, which will culminate in an in-person event when it is safe to gather.

Takei's career has spanned more than six decades, including appearances in more than 40 feature films and hundreds of television roles, most famously as Hikaru Sulu in "Star Trek." He has used his success as a platform to fight for social justice, LGBTQ rights and marriage equality. His advocacy is personal: During World War II, Takei spent his childhood in U.S. internment camps along with 120,000 other Japanese Americans.

"It feels so right to be with this group of extraordinary young people for UCLA's very first virtual celebration because I too spent a good part of my career boldly going where no one had gone before!" he said.

PHOTO: COURTESY OF GEORGE TAKEI





# THANK YOU

**UCLA** College

The CENTENNIAL Campaign for **UCLA**





On behalf of the UCLA College, we extend our deepest gratitude for your support during the Centennial Campaign for UCLA. Your extraordinary generosity across all five College divisions is making a difference and will be felt for years to come. Without you, we could not pursue vital research; advance understanding of the universe and what it means to be human; seek solutions to society's urgent challenges; or educate the graduates — our future leaders and innovators — of whom we are so incredibly proud.

**Together, we look forward to shaping the next 100 years.**

● ● ● [COLLEGE.UCLA.EDU/CAMPAIGNIMPACT](https://college.ucla.edu/campaignimpact)

# UCLA College Magazine

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