



UCLA COLLEGE REPORT

Summer 2012 | Volume Eighteen

UCLA COLLEGE OF LETTERS AND SCIENCE

From the Deans of the **College of Letters and Science**

Dear Friends,

This June marks the College of Letters and Science's 88th Commencement ceremony, as always a celebration of our extraordinary graduates and the equally impressive faculty who guide and mentor them. It's a time when we look ahead to the opportunities before us.

It seems an appropriate moment, therefore, to introduce an entirely new look for the **College Report**. We have redesigned it to reflect the optimism and forward outlook that distinguishes the College and UCLA as a whole. By using brighter colors and a more open design, we enhance the feature stories from each of the five divisions as well as College news and development.

The College's spirit is evident in the new Luskin Thought Leadership lecture series, made possible by the vision and generosity of Meyer Luskin and whose inaugural speaker was President Bill Clinton. It is visible in the remarkable breadth and diversity of accomplishment of our Commencement speakers and alumni, whose degrees span the College's five divisions. And it is demonstrated by the groundbreaking research and world-class scholarship that the College produces every day.

As we look forward to commemorating UCLA's Centennial celebration, the **College Report** remains dedicated to chronicling the ongoing impact of our students, faculty and those who support the College so generously, and their commitment to leading lives of scholarship and service.

Sincerely,

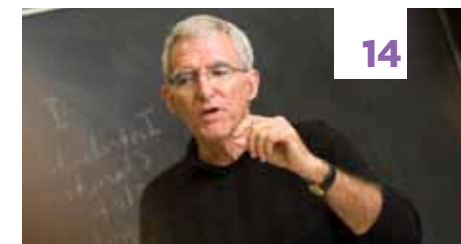
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DEPARTMENTS

- 2** College News: Sloan, Charles Dickens and Social Media, AAAS, Startup UCLA
- 26** Great Futures: The Luskin Lecture
- 28** Great Futures: The 2012 Commencement Speakers

FEATURES

- 4** The Science of Food: Recipe for a Delicious Course
- 6** Bloodwork: Utpal Banerjee Wins NIH Pioneer Award
- 8** On Its Face: Primate Study Breaks New Ground
- 10** Royal Pair: New Honors for Ghez and Tao
- 12** Alcohol and Aging: Intriguing New Findings
- 14** A Beautiful Mind: Teofilo Ruiz
- 16** Africa Speaks, America Answers
- 18** *Perséphone*: Inside Stravinsky's Star-Crossed Opera
- 20** Back to School: Mellon New Directions Fellowships
- 22** American Sign Language Comes to UCLA
- 24** Increasing the Diversity Pipeline: Mellon McNair and Mays



On the cover

A soaring shot of Franz Hall reaching for the sky on a beautiful day during spring break, shot by UCLA Senior Designer Bryan Mandelbaum

UCLA College of Letters and Science

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Regents UC 2012

Unless otherwise indicated, all original photos by Reed Hutchinson.

UCLA ranks second in nation in number of 2012 Alfred P. Sloan fellows

SIX OUTSTANDING YOUNG PROFESSORS FROM UCLA ARE AMONG 126 SCIENTISTS AND SCHOLARS FROM 51 COLLEGES AND UNIVERSITIES IN THE UNITED STATES AND CANADA TO RECEIVE 2012 SLOAN RESEARCH FELLOWSHIPS FROM THE ALFRED P. SLOAN FOUNDATION.

UCLA and Yale University each had six faculty members selected, second only to Stanford University, which had seven. The fellowships are awarded to exceptional young researchers “whose achievements and potential identify them as rising stars, the next generation of scientific leaders,” according to the New York-based foundation. Five of UCLA’s recipients are in the College:

Leah Platt Boustan is an assistant professor of economics whose research interests are at the intersection of economic history, modern labor and urban economics. Her research focuses on the “Great Black Migration” from the rural South during and after World War II and the mass migration from Europe to the United States in the late 19th and early 20th centuries. She is a research associate with the California Center for Population Research and a faculty research fellow with the National Bureau of Economic Research, and is writing a book titled *Competition in the Promised Land: Black Migrants in Northern Cities and Labor Markets*.

Neil Garg is an assistant professor of chemistry whose remarkable total synthesis of a natural product created a stir last August at the American Chemical Society’s national meeting. Garg’s laboratory develops synthetic strategies and methods to enable the synthesis of complex bioactive molecules. He also employs innovative techniques in his teaching, including assigning his undergraduates an extra credit project in which they produce music videos about organic chemistry. He joined UCLA in 2007, and has won numerous awards and honors for his research.

John Novembre, an assistant professor of ecology and evolutionary biology, and of bioinformatics, is a population geneticist. The central area of interest of his laboratory is the development of theory and statistical methods for analyzing genomic-scale population genetic data. Much of his National Science Foundation-funded research investigates questions in evolutionary genetics, focusing on human evolutionary history and using data from emerging genotyping and sequencing technologies. He has won numerous awards and honors for his research.

Sebastien Roch is an assistant professor of mathematics who conducts research at the intersection of applied probability, mathematical statistics and theoretical computer science, with an emphasis on applications in bioinformatics. His research, which is supported by the National Science Foundation, uses models and techniques from probability theory to develop new methods for solving large-scale statistical and computational problems—for instance, in evolutionary genomics.

Marcus Roper is an assistant professor in mathematics whose expertise includes mathematical modeling, fluid dynamics, physical biology and asymptotic methods. He focuses on studying the physical constraints on organisms that must disperse, grow or propel themselves in challenging environments, including how spores disperse and bacteria spread, and how fungi shuttle nuclei around during growth.

“Today’s Sloan Research Fellows are tomorrow’s Nobel Prize winners,” said Paul L. Joskow, president of the Alfred P. Sloan Foundation. Sloan Research Fellowships are intended to enhance the careers of exceptional young scientists and scholars in chemistry, computer science, economics, mathematics, evolutionary and computational molecular biology, neuroscience, ocean sciences and physics. For more information, visit www.sloan.org.

@Charles Dickens: The Social Media World of a Victorian Icon

HE LOOKED AT THE TECHNOLOGICAL REVOLUTION UNFOLDING AROUND HIM, RECOGNIZED THE POSSIBILITY FOR NEW KINDS OF SOCIAL NETWORKS—AND CHANGED POPULAR CULTURE FOREVER.

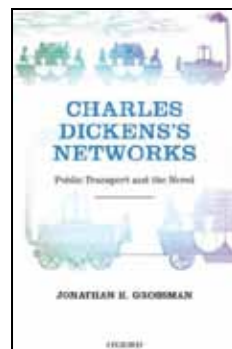
Facebook? Twitter? Think further back. Way back.

In a new book from Oxford University Press, Jonathan Grossman, a UCLA authority on the life and work of Charles Dickens, ascribes

key characteristics of Dickens’s work to the 19th-century author’s appreciation of the implications of Victorian innovations in high-speed, global passenger transport, including new perceptions of time, space and community.

“More than a century before the advent of eHarmony and Match.com, Dickens shows how new social networks made possible by technological advances were facilitating connections that would not have occurred at an earlier time,” noted the UCLA associate professor of English. Through such novels as *The Old Curiosity Shop*, *A Tale of Two Cities* and *Great Expectations*, Dickens helped readers understand the historic shift engulfing them, Grossman contends in *Charles Dickens’s Networks: Public Transport and the Novel*.

“Dickens grasped the promise that the public transport revolution held in networking people together,” said Grossman. “He helped us to imagine and understand a networked world.”



College faculty named AAAS fellows

THREE UCLA COLLEGE SCHOLARS HAVE BEEN SELECTED AS FELLOWS BY THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (AAAS), THE WORLD’S LARGEST GENERAL SCIENTIFIC SOCIETY AND THE PUBLISHER OF THE JOURNAL SCIENCE.

Members are chosen for their distinguished efforts to advance science or its applications. The selection of fellows has been an AAAS tradition since 1874. The new fellows, honored in February at the AAAS annual meeting in Vancouver, are:

Mark L. Green, professor of mathematics, who has worked in several branches of mathematics, including several complex variables, commutative algebra, Hodge theory and algebraic geometry. He was co-founder and longtime director of UCLA’s

Institute for Pure and Applied Mathematics, a national research institute funded by the National Science Foundation that fosters interdisciplinary collaborations among mathematical scientists and physical scientists, engineers, biologists, medical researchers, and researchers in the humanities and social sciences.

Robert Modlin, professor of microbiology, immunology and molecular genetics, and the Klein Professor of Dermatology and chief of the Division of Dermatology. He was honored for “distinguished contributions toward understanding human antimicrobial pathways, including Th1/Th2 cytokines, TLR 2 recognition of microbial lipoproteins and the role of vitamin D in immunity.” His laboratory has made fundamental insights into T-cell subsets, cytokine patterns, antigen presentation, innate immunity and antimicrobial mechanisms in the human immune response to infection.

J. David Neelin, professor and chair of UCLA’s Department of Atmospheric and Oceanic Sciences, was honored for “distinguished contributions to the fields of theoretical climate dynamics and climate modeling, particularly for insights into the dynamical mechanisms underlying the behavior of the El Niño/Southern Oscillation phenomenon.” Neelin conducts research involving interactions among different pieces of the climate system, starting with ocean-atmosphere interaction and spreading to other interactions.

AAAS, founded in 1848, is a nonprofit organization that includes 261 affiliated societies and science academies, and serves 10 million people. The association’s mission is to “advance science and serve society” through initiatives in science policy, international programs and science education, including its website devoted to science news, EurekAlert! at www.eurekalert.org.

Good Beginnings: Budding Digital Entrepreneurs Flock to Startup UCLA

MORE THAN 500 STUDENTS AND ENTREPRENEURS PACKED UCLA’S SCHOENBERG HALL IN MARCH TO HEAR A TALK BY STARTUP GURU ERIC RIES AT AN EVENT HOSTED BY STARTUP UCLA, A NEW CAMPUS-WIDE INITIATIVE, AND LEANLA, A GROUP OF L.A.-BASED TECH ENTREPRENEURS.

Ries is a blogger and the author of the best-seller *The Lean Startup*. *Businessweek* named him one of the “Best Young Entrepreneurs of Tech” in 2007, and he became an entrepreneur-in-residence at Harvard Business School in 2010.

Launched in February, Startup UCLA is aimed at strengthening entrepreneurship all over campus in Web and digital media companies. It includes a physical space where student entrepreneurs can gather, opportunities for networking, a guest speaker series and a summer accelerator program.

“It used to be when you graduated

you could either get a job or go to graduate school. Increasingly, our graduates are interested in a third path: to start their own ventures and get their ideas out in the world,” said Jim Stigler, professor of psychology and associate dean for Research & Innovation in the Social Sciences.

Tim Groeling, chair of the Department of Communication Studies agreed. “It was an alumna from Communication Studies, Julia Lam, who first encouraged us to launch Startup UCLA. Lots of talented and experienced alumni want to mentor our students.”

UCLA alumnus and L.A. entrepreneur Robert Jadon is leading the first Startup UCLA Summer Accelerator, which will provide workspace, guidance and mentors to early-stage companies comprised of teams of student-founders with bright ideas. At the end of the summer, the students will pitch their companies to local entrepreneurs and investors.

At the March event, Ries portrayed entrepreneurship as an evolving



Eric Ries

management science that employs quantitative methods and experiments to prove a company’s sustainability. He noted that unlike its Hollywood portrayals, the startup world can be filled with embarrassment and failure. But he said that struggles over funding, strategic mistakes and last-resort changes in direction create learning opportunities.

“There are more entrepreneurs practicing right now than in any time in history,” said Ries, “and right here in this room, there are people who will advance the ‘state of the art’ of entrepreneurship.”

Serving Students “Science and Food”

THE 50 LUCKY UNDERGRADUATES WHO TOOK AMY ROWAT’S “PHYSIOLOGICAL SCIENCES 7” COURSE THIS SPRING WILL PROBABLY NEVER BE ABLE TO GO TO A RESTAURANT AND LOOK AT FOOD THE SAME WAY AGAIN. AND THAT’S NOT AN UNAPPETIZING THING.

By Wendy Soderburg

“Science and Food: The Physical and Molecular Origins of What We Eat” taught those students the hows and whys behind plant and animal texture, and flavor—why lettuce is crispy or why different cuts of meat have different textures. So when they go into restaurants now, they don’t just enjoy that juicy steak; they know how to determine its overall mechanical properties as well.

Science Is Delicious

It’s not just undergrads taking Rowat’s course who received a taste of food science, however. What set L.A. foodies buzzing louder than a boiling teakettle was the blue-ribbon list of celebrated chefs and food authors from around the world who came to share their knowledge with

members of the public, who snapped up tickets to a four-lecture series that Rowat, an assistant professor of integrative biology and physiology, organized in conjunction with her undergraduate course. Ticket sales exploded as soon as word of the lectures got out, and the first three talks sold out almost immediately.

The public lectures were given by such kitchen luminaries as René Redzepi of Restaurant Noma and Lars Williams of Nordic Food Lab, both located in Copenhagen, Denmark; Nathan Myhrvold, author of the book *Modernist Cuisine*; David Chang, owner/chef of the Momofuku restaurant group in New York City, Sydney and Toronto, and Peter Meehan, food writer for *The New York Times*; and chefs Jimmy Shaw of Lotería Grill in Los Angeles, Sherry Yard of Spago in Beverly Hills and Bill Yosses, executive pastry chef at the White House.

For the students enrolled in Rowat’s course (which is geared toward non-science majors), there was an added treat: Not only did they get to hear the lecture experts speak in their class, but they also

heard from several other big-name chefs, including Jordan Kahn of Red Medicine in Beverly Hills; David Kinch of Manresa in Los Gatos, Calif., and Cynthia Sandberg of Love Apple Farms, the exclusive kitchen garden for Manresa; Barbara Spencer of Windrose Farm in San Luis Obispo County; Gary Menes of Le Comptoir in Los Angeles; Jon Shook and Vinny Dotolo of Animal/Son of a Gun in Los Angeles; and Adam Fleischman of Umami Burger in Los Angeles.

Lecture topics included “The Molecules of Food and the Exploration of Deliciousness,” “Why Do Carrots Taste Sweeter in the Winter?,” “Milk, From Breast to Cheese and the Many Forms of Sugar,” “Perfecting Mouthfeel in Mexican Cuisine: How to Tune Viscosity Using Tortilla Chips” and “A Microbe in My Ramen? Altering Food Texture and Flavor Using Microbes.”

“All the chefs were super enthusiastic about this,” Rowat said. “They really wanted us to learn more about their food and the science underlying what they make in the kitchen. They were excited to share their approach to food with the students as well.”

Recipe for an Academic Feast

Rowat co-created the first annual science and cooking class at Harvard University, where she was a postdoctoral fellow in the School of Engineering & Applied Sciences. The course was instigated, she said, by celebrated Spanish chef Ferran Adrià, who had come to Harvard to deliver a lecture. Inspired, Rowat and her colleagues decided to develop a general education course with



Amy Rowat



a focus on haute cuisine, and Adrià himself helped by inviting fellow chefs who were experts in modernist cuisine. Students learned about “spherification”—a process that turns a liquid into a gel, typically with the addition of alginate—used by chefs to create mozzarella balls, “fake” caviar and other delicacies.

When Rowat was preparing her course at UCLA, she decided that the emphasis wouldn’t be on spherification, but rather on the role of gels in physiology and in food. “In the context of meat, for example, we’re trying to understand why different cuts of meat have different textures and why you need to cook them differently—why you need to slow roast a pork shoulder, but a pork chop is much better if you sear it,” she said. “There are different amounts of collagen in these meats, and collagen provides a network that provides structure for tissues. The extent to which it’s cross-linked helps determine its overall

mechanical properties.”

Rowat settled on a conference room in the Life Sciences Building suitable for class needs. She and her TAs provided pots, pans, an induction burner and a microscope to inspect the small-scale structure of foods made in class, such as cheese and pickled vegetables. She also received food donations from companies such as Whole Foods and Hershey’s.

Since there wasn’t enough space in the classroom for individual workstations, Rowat provided the students with ingredients to conduct experiments in their dorms or apartments. “In some cases, they needed a ruler and a weight, so we provided them with these little kits of the ingredients to make, for example, a sourdough starter. They

had their bottle of water and their little bag of flour,” she said. “It’s a new era of DIY kitchen experiments that really make the connection between science and everyday life.”



BLOOD WORK

UCLA's Utpal Banerjee Receives NIH Pioneer Award

THE COMPLEX SIGNALS THAT GOVERN BLOOD PROGENITOR CELLS—WHAT LEADS THEM TO PROLIFERATE AND DIFFERENTIATE, WHAT HELPS THEM MAINTAIN THEIR “STEMNESS”—HOLD A TREASURE TROVE OF INFORMATION ABOUT HUMAN DEVELOPMENT, WITH SUBSTANTIAL IMPLICATIONS FOR THE UNDERSTANDING AND TREATMENT OF DISEASE.

By Dan Gordon

Like hematopoietic stem cells, blood progenitor cells have the potential to differentiate into all blood cell types and the ability to replenish the blood supply. Among the leaders in unraveling these important mysteries is the group headed by Utpal Banerjee, Ph.D., the Irving and Jean Stone Professor and chairman of the Molecular, Cell and Developmental Biology Department at the UCLA College of Letters and Science. Banerjee was recently recognized with the National Institutes of Health's prestigious Pioneer Award, providing \$2.5 million over five years to further his group's endeavors. Only 13 researchers nationwide received the award, designed to support "individual scientists of exceptional creativity who propose pioneering—and possibly transforming—approaches to major challenges in biomedical and behavioral research."

Critical Insights

Using the fruit fly *Drosophila*—a classic model for biological studies in which genes can be easily manipulated and their effects on cells monitored—Banerjee's group has been making major strides as they seek to identify basic molecular processes that are conserved in development across species. Banerjee's particular interest is in the regulation of blood progenitors. These cells exist within a microenvironment in which signals from a safe zone, or "niche," help to maintain their quiescence. Lack of the niche-derived signal triggers the loss of the progenitor cells' "stemness," resulting in undesirable levels of proliferation and differentiation.

Two recent studies published in major peer-reviewed journals by Banerjee's group

have shed critical insight into the workings of these processes in the common fruit fly. The first, appearing in the Dec. 23, 2011 issue of *Cell*, reported on a previously unknown aspect of blood cell production in which the stem-cell-like blood progenitor cells receive signals from the very cells they create, "telling" them when to stop. Then, reporting in the March 11, 2012 edition of *Nature Cell Biology*, Banerjee and his colleagues further showed that systemic signals in the form of insulin and nutrition help to prevent blood progenitor cells from differentiating into mature blood cells—a finding with implications for the study of the inflammatory response and blood development in response to dietary changes in humans.

A complex cellular "conversation" is critical to keeping the body's blood supply in balance, whether it's ensuring that enough blood cells are produced to respond to injury and infection or seeing to it that blood progenitor cells remain available to produce future cellular offspring. The cross

talk was already known to involve two-way signaling between the progenitor cells and other cells that occupy a nearby niche in the bone marrow. These signals keep the progenitors in a stem-cell-like state so that, when needed, they can begin differentiating into blood cells. Previous studies have shown that when niche cells are removed, blood progenitor cells differentiate unchecked—and ultimately, the fruit fly runs out of progenitor cells and is unable to make new cells to mount an immune response to infection or injury.

A Surprising Finding

But the group headed by Banerjee and co-senior author Julian A. Martinez-Agosto, M.D., assistant professor of human genetics and pediatrics at UCLA, found, to its surprise, a second key conversation playing a role in keeping the progenitors in check. They noted in their research that once the progenitor cells had begun differentiating and the blood cells they were creating became mature, the progenitors turned

quiescent. The reason, they discovered, was a second signal being sent from the daughter cells the progenitors had created, telling them it was time to stop multiplying and differentiating.

"It was a very surprising finding because there was no reason to suspect that the differentiating cells had any role at all in the process," Banerjee says. "It's always been the paradigm in stem cell biology that all that was needed was the signaling from the niche cells to maintain the progenitor population. Now we've shown that you also need the signals from the differentiated cells to help maintain the progenitor cell population. There are hints suggesting that the same 'back talk' signals take place in mammals, and this shows the mechanism by which such a thing could occur."

For the *Nature Cell Biology* study, the flies were studied while in the larval stage of development. Ji Won Shim, a postdoctoral fellow in Banerjee's lab and first author of the study, placed the larvae into a jar with no food and left them for 24 hours. In the absence of insulin and nutritional signaling, all of the blood progenitor cells were gone, leaving only differentiated mature

blood cells. Keeping the progenitors from differentiating into mature blood cells is important, since progenitor cells are needed to create the blood supply for the adult fruit fly.

Banerjee, the study's senior author, noted that in their normal state, *Drosophila*'s progenitor cells receive systemic signals from insulin and nutritional factors—in this case, essential amino acids—that keep them from differentiating. Insulin is secreted from cells within the fly's brain that are similar to the beta cells of the human pancreatic islets (which secrete insulin).

A New Path Toward Fighting Disease

The discovery puts researchers on a path toward a better understanding of Type 2 diabetes and related chronic conditions that fall under the category of metabolic syndrome, which affects as much as 25 percent of the U.S. population. In the fruit fly, the only mature blood cells present are myeloid cells; diabetic patients have many activated myeloid cells that could be causing disease symptoms. It could be that abnormal activation of myeloid cells and abnormal metabolism play a major role in diabetes.



Utpal Banerjee

"We expect this study will promote further investigation of possible direct signal-sensing mechanisms by mammalian blood progenitor cells," says Banerjee, whose team is pursuing other system-signaling molecules that may control fruit fly blood progenitor cells. This could yield insights into chronic inflammation and the myeloid cell accumulation seen in patients with Type 2 diabetes and other disorders.





ON ITS FACE

A TEAM OF THREE PROMINENT UCLA BIOLOGICAL DETECTIVES HAS PEERED INTO THE MYSTERIES HIDDEN IN THE FACES OF WILD MONKEYS—MUSTACHED AND BEARDED, LION-MANED AND BANDED IN WHITE, HOWLING AND RESPLENDENTLY RED-FACED FACES—AND DISCOVERED HERETOFORE UNKNOWN CONNECTIONS LINKING THE ASTONISHING FACIAL DIVERSITY OF THESE ANIMALS’ FACES TO THEIR SOCIAL AND ECOLOGICAL WORLDS.

By Robin Keats

Michael Alfaro, Sharlene Santana and Jessica Lynch-Alfaro uncovered these new insights in their study of the resplendent mug shots of 129 New World primates.

“Although faces are conspicuous parts of primate bodies, we really lacked a good explanation for this diversity,” said Alfaro, the study’s senior author and UCLA associate professor of ecology and evolutionary biology. “What does it signify? How did it evolve? Our study provides the first real quantitative evidence of the linking.”

Alfaro, Santana and Lynch-Alfaro had the results of their study published online in the prestigious journal *Proceedings of The Royal Society B* this past January. Santana, who served as lead author, is a post-doctoral fellow at UCLA’s Institute for Society and Genetics and the Department of Ecology and Evolutionary Biology, and also a Faculty Institutes for Reforming Science Teaching Postdoctoral Scholar. Lynch-Alfaro, associate director of the UCLA Institute for Society and Genetics, co-authored the study. Their revelations about the evolution of primate faces was funded by fellowships from the National Science Foundation and UCLA’s Institute for Society and Genetics.

The project “illustrates the transformative elements of cross-disciplinary research,” said Life Sciences Dean Victoria Sork, adding “the work of this research team is a good illustration of the creative, sophisticated, state-of-the-science research in UCLA’s Life Sciences.”

What Does Your Face Say?

The UCLA scientists divided the faces they studied into 14 regions; coded the color of each part, including the hair and skin; studied



UCLA Primate Study Breaks New Ground in Evolutionary Science

the patterns and anatomy of the faces; and gave each face a “complexity” score. They explored how the complexity of primate faces evolved over time in relation to their social systems.

To determine how facial colors are related to physical environments, environmental variables were precisely analyzed, using the longitude and latitude of primates’ habitats as a proxy for sun exposure as well as temperature. The team also used statistical methods to analyze the evolutionary history of the primate species and when they diverged from one another.

“We found very strong support for the idea that as species live in larger groups, their faces evolved to be more simple, more plain,” said Santana. “We think that is related to their ability to communicate using facial expressions.”

“I grew up in Venezuela,” she said, “and was exposed from a young age to the extraordinary diversity of tropical species, including primates such as capuchin, howler and spider monkeys. As a college student, I spent a lot of my time working in tropical forests, which enhanced my appreciation and interest in biodiversity. Therefore, I was very excited to lead one of the first studies to investigate how the variety of facial colors evolved in Neotropical primates.”

The researchers’ finding that faces are simpler in larger groups came as a surprise to them.

“Initially, we thought it might be the opposite,” Santana said. “You might expect that in larger groups, faces would vary more and have more parts that would allow one individual to identify any member of that group. That is not what we found. Species that live in larger

groups live in closer proximity to one another and tend to use facial expressions more than species in smaller groups, which tend to be more spread out. Being in closer proximity may put stronger pressures on using facial expressions.”

Daniel T. Blumstein, professor and chair of the Department of Ecology and Evolutionary Biology, and an expert on the relationship between social complexity and communicative complexity in

animals, agrees. “We know that as social complexity increases, the complexity of vocalizations increases, and this study implies that the ability to produce nuanced and variable facial signals also increases with social complexity.”

The Bare Truth About Human Faces

The evolutionary biologists also found that when primates live in environments with more species that are closely related, their faces are more complex, regardless of their group size. This finding is consistent with pressures to recognize individuals of other closely related species that live in the same habitat to avoid interbreeding, Santana said.

In species that live closer to the equator, the skin and hair around their eyes have evolved to be darker, the biologists report. They also found that regions around the nose and mouth evolved to be darker in species that live in humid environments and denser forests, and facial hair is longer in species that live farther from the equator, where the climate is colder. This may be related to regulating body temperature.

Alfaro points out that the study could have implications for

the evolution of human faces; an important factor in shaping human faces is the premium on making unambiguous facial expressions. According to Santana, “A face that is more plain could allow primates to convey expressions more easily. Humans have pretty bare faces, which may allow us to see facial expressions more easily than if, for example, we had many colors in our faces.”

So is there an interspecies/scientific eye-to-eye correlation between the evolution of human and primate faces? “Humans don’t have all these elaborate facial ornamentations [that primates do], but we do have the ability to communicate visually with facial expressions,” Lynch-Alfaro said. “Does reduced coloration complexity create a blank palate for visual expressions that can be conveyed more easily? That is an idea we are testing.”



Michael Alfaro



Sharlene Santana



Jessica Lynch-Alfaro

Royal Pair *New Honors for Ghez and Tao*

ASTRONOMER ANDREA GHEZ AND MATHEMATICIAN TERENCE TAO SHARE AT LEAST A FEW THINGS IN COMMON: THEY ARE TWO OF UCLA'S MOST EXCEPTIONAL SCHOLARS AND INTERNATIONALLY RENOWNED IN THEIR FIELDS. THEY BOTH HAVE BEEN SELECTED AS MACARTHUR FELLOWS AND ELECTED TO THE AMERICAN PHILOSOPHICAL SOCIETY. THEY BOTH HAVE CHILDREN WHO ATTEND THE INNOVATIVE UCLA LAB SCHOOL. AND NOW, THEY SHARE A NEW DISTINCTION: ROYAL RECOGNITION.

By Stuart Wolpert



The king and queen of Sweden attended a ceremony in Lund, Sweden, on May 15, where Ghez and Tao were awarded the prestigious Crafoord Prize by the Royal Swedish Academy of Sciences. The prize

recognizes extraordinary achievements and is among the most prestigious honors in science. Ghez is the first woman to ever be awarded this prize.

Ghez and Germany's Reinhard Genzel share the 2012 Crafoord Prize in Astronomy for their research on stars orbiting the center of the Milky Way galaxy, where the two astronomers, working independently, have discovered "the most reliable evidence to date that supermassive black holes really exist," the Academy announced. Tao shares the 2012 Crafoord Prize in

Mathematics with Princeton University's Jean Bourgain for what the Academy described as "brilliant and groundbreaking work in harmonic analysis, partial differential equations, ergodic theory, number theory, combinatorics, functional analysis and theoretical computer science." Tao, who has received major support for his research from philanthropists Betty and S.L. Huang, and Bourgain also worked independently of each other.

"Andrea Ghez and Terry Tao are two of UCLA's true superstars—indeed, two of the world's intellectual superstars," noted Joseph Rudnick, dean of the UCLA Division of Physical Sciences. "Of course, we knew this long before, but we are delighted to see that they have both been awarded the Crafoord Prize on the same day."

Journey to the Center

Ghez, a professor of physics and astronomy who holds UCLA's Lauren B. Leichtman and Arthur E. Levine Chair in Astrophysics, expressed her gratitude to the Royal Academy and the W. M. Keck Observatory, which houses the two largest telescopes in the world.

"This research was possible thanks to the Observatory; they enabled us to achieve the tremendous progress that we have made in correcting the distorting effects of the Earth's atmosphere with high-angular resolution imaging," said Ghez. "It is why I came

to UCLA and why I stay at UCLA. The most recent technology of adaptive optics is allowing us to learn even more about this black hole at the center of our galaxy—how it formed, how it grows and how to describe the properties of space and time in the vicinity of such an exotic object."

Since 1995, Ghez has used the Keck Observatory, which sits atop Hawaii's dormant Mauna Kea volcano, to study the rotational center of the Milky Way and the movement of hundreds of stars close to this galactic center. She and her research team have benefited significantly from the Preston Family Endowed Graduate Fellowship in Astrophysics, supported by Howard and Astrid Preston.

In 1998, Ghez answered one of astronomy's most important questions, showing that a monstrous black hole resides at the center of our Milky Way galaxy, some 26,000 light-years away from Earth, with a mass more than 3 million times that of the sun.

The Earth's atmosphere distorts the images of stars. Ghez used a technique she refined known as speckle interferometry, which involves taking thousands of very quick, high-resolution snapshots that correct for these distortions. She has developed algorithms and software for analyzing the data; her technique improves the resolution dramatically.

In 2000, Ghez and colleagues reported

for the first time that stars accelerate around a supermassive black hole.

"We are actually seeing stars begin to curve in their orbits," she said at the time. "One of these stars may complete its orbit around the supermassive black hole in as little as 15 years."

In 2003, Ghez reported that the case for the Milky Way's black hole had been strengthened substantially and that all of the proposed alternatives could be excluded. In 2005, she and her colleagues took the first clear picture of the center of the Milky Way.

With the technology at the Keck Observatory, Ghez and her colleagues have revealed many surprises about the environment surrounding supermassive

black holes, discovering young stars where none were expected and seeing a lack of old stars where many were anticipated.

Trailblazing in a Golden Age of Mathematics

Tao, considered one of the world's leading mathematicians, holds the James and Carol Collins Chair in the UCLA College of Letters and Science. He believes we are living in a "golden age for mathematics" and that mathematics has become much more collaborative and interdisciplinary.

"We use math all the time without even knowing it," said Tao, the first faculty member in UCLA's history to win the prestigious Fields Medal. "When we use Google,

for example, to find a Web page, there is a lot of powerful mathematics that we take for granted occurring behind the scenes."

About his approach, Tao said, "If I don't understand something properly, every component, it really bugs me. I don't like accepting things at face value."

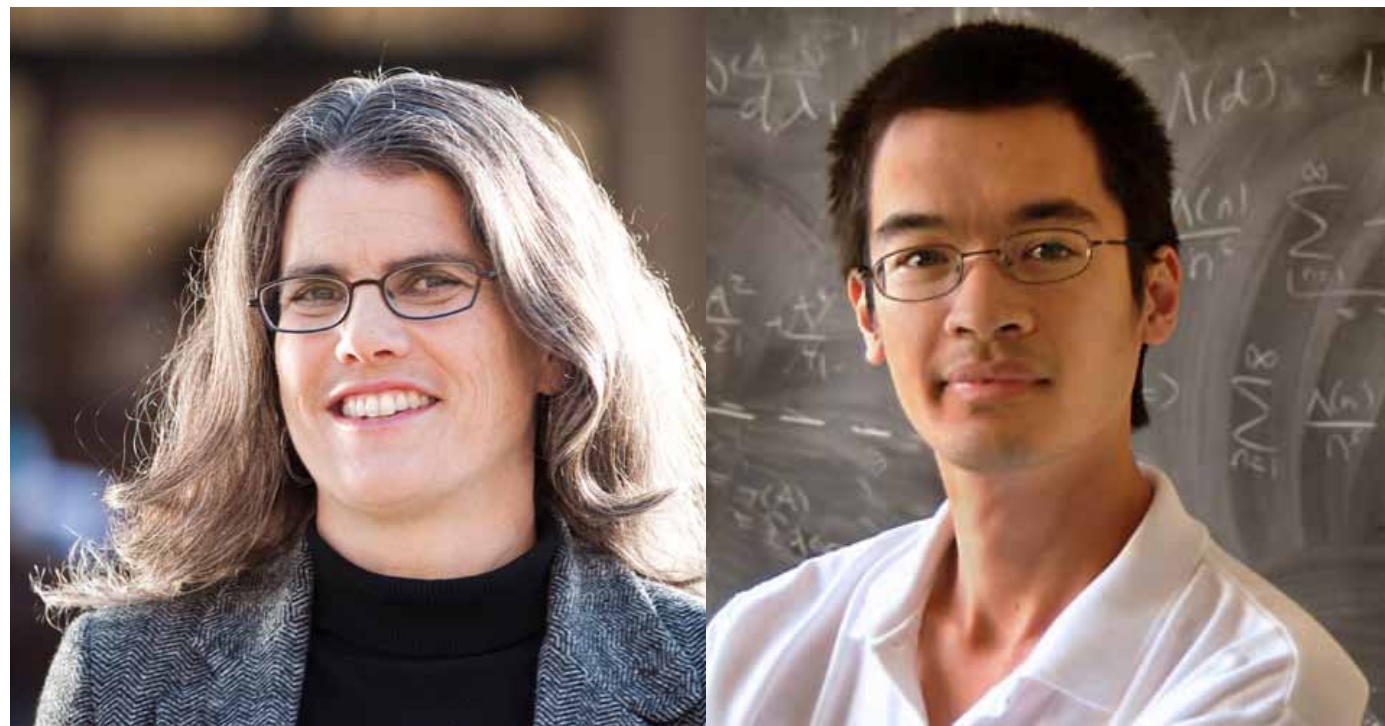
One of Tao's most well-known research discoveries involves prime numbers, research he conducted with Ben Green, professor of mathematics at England's University of Bristol. A number is prime if it is larger than 1 and divisible by itself and 1. The primes begin with 2, 3, 5, 7, 11, 13 and 17.

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. An example of an equally spaced progression of primes, of length three and space four, is 3, 7, 11; the largest known progression of prime numbers is length 23, with each of the numbers containing 16 digits. Green and Tao's discovery reveals that somewhere in the prime numbers, there is a progression of length 100, one of length 1,000 and one of every other finite length, and that there are an infinite number of such progressions in the primes.

To prove this, Tao and Green spent two years analyzing all four proofs of a theorem named for Hungarian mathematician Endre Szemerédi. Few understand all four proofs.

"We took Szemerédi's theorem and goosed it so that it handles primes," Tao said. "Every time Ben and I got stuck, there was always an idea from one of the four proofs that we could somehow shoehorn into our argument."

PHOTO OF ANDREA GHEZ BY CHRISTOPHER DIBBLE



Andrea Ghez

Terence Tao

PHOTO OF TERENCE TAO BY REED HUTCHINSON

Why Do Tiny Amounts of Alcohol Dramatically Extend a Worm's Life?

WHEN A TINY WORM USED FREQUENTLY AS A MODEL IN AGING STUDIES MORE THAN DOUBLED ITS LIFE SPAN, UCLA BIOCHEMISTS INITIALLY THOUGHT THE LIFE EXTENSION WAS DUE TO CHOLESTEROL. THEY WERE ASTONISHED TO FIND THE REASON ACTUALLY SEEMS TO BE RELATED TO ALCOHOL.

By Stuart Wolpert

"This finding floored us—it's shocking," said Steven Clarke, UCLA professor of chemistry and biochemistry and the senior author of the study, published Jan. 18 in the online journal *PLoS ONE*, a publication of the Public Library of Science.

Initially, Clarke's laboratory intended to test the effect of cholesterol on the worms.

"Cholesterol is crucial for humans," Clarke said. "We need it in our membranes, but it can be dangerous in our bloodstream."

The scientists fed the worms cholesterol, and the worms lived longer, apparently due to the cholesterol. They had dissolved the cholesterol in ethanol, often used as a solvent, which they diluted a thousandfold.

"It's just a solvent, but it turns out the solvent was having the longevity effect," Clarke said. "The cholesterol did nothing. We found that not only does ethanol work at a 1-to-1,000 dilution, it works at a 1-to-20,000 dilution. That tiny bit shouldn't have



Steven Clarke

made any difference, but it turns out it can be so beneficial."

How little ethanol is that? "The concentrations correspond to a tablespoon of ethanol

in a bathtub full of water or the alcohol in one beer diluted into a hundred gallons of water," Clarke said.

The biochemists said they find their discovery in the worm known as *Caenorhabditis elegans* difficult to explain. Why would minuscule amounts of ethanol, the type of alcohol found in alcoholic beverages, more than double the worm's life span? In humans, of course, alcohol consumption is generally harmful, Clarke said, and if the worms are given much higher concentrations of ethanol, they experience harmful neurological effects and die, other research has shown.

"We used far lower levels, where it may be beneficial," said Clarke, who studies the biochemistry of aging.

The worms, which grow from an egg to an adult in just a few days, are found throughout the world in soil, where they eat bacteria. Clarke's research team—Paola Castro, Shilpi Khare and Brian Young—studied thousands of these worms during the first hours of their lives, while they were still in a larval stage. The worms normally live for about 15 days and can survive with

nothing to eat for roughly 10 to 12 days.

"Our finding is that tiny amounts of ethanol can make them survive 20 to 40 days," Clarke said.

Why would such little ethanol have such an effect on longevity?

"We don't know all the answers," Clarke acknowledged. "It's possible there is a trivial explanation, but I don't think that's the case. We know that if we increase the ethanol concentration, they do not live longer. This extremely low level is the maximum that is beneficial for them."

The scientists found that when they raised the ethanol level by a factor of 80, it did not increase the life span of the worms.

The research raises but does not answer the question of whether tiny amounts of ethanol can be helpful for human health. Whether this mechanism has something in common with findings that moderate alcohol consumption in humans may have a cardiovascular health benefit is unknown, but Clarke said the possibilities are intriguing.

In follow-up research, Clarke's laboratory is trying to identify the mechanism that extends the worms' life span.

About half the genes in the worms have human counterparts, he said, so if the researchers can identify a gene that extends the life of the worm, it may have implications for human aging.

"It is important for other scientists to



know that such a low concentration of the widely used solvent ethanol can have such a big effect in *C. elegans*," said lead author Paola Castro, who conducted the research as an undergraduate in Clarke's laboratory before earning a bachelor's degree in biochemistry from UCLA in 2010 and joining the Ph.D. program in bioengineering at UC Santa Cruz. "What is even more interesting is the fact that the worms are in a stressed developmental stage. At high magnifications under the microscope, it was amazing to see how the worms given a little ethanol looked more robust than worms not given ethanol."

"While the physiological effects of high alcohol consumption have been established to be detrimental in humans, current research shows that low to moderate alcohol consumption, equivalent to one or two glasses of wine or beer a

day, results in a reduction in cardiovascular disease and increased longevity," said co-author Shilpi Khare, a former Ph.D. student in UCLA's biochemistry and molecular biology program and now a postdoctoral fellow at the Genomics Institute of the Novartis Research Foundation in San Diego. "While these benefits are fascinating, our understanding of the underlying biochemistry involved remains in its infancy. We show that very low doses of ethanol can be a worm 'lifesaver' under starvation stress conditions," Khare added. "While the mechanism of action is still not clearly understood, our evidence indicates that these worms could be utilizing ethanol directly as a precursor for biosynthesis of

high-energy metabolic intermediates or indirectly as a signal to extend life span. These findings could aid researchers

in determining how human physiology is altered to induce cardio-protective and other beneficial effects in response to low alcohol consumption."

Clarke's laboratory identified the first protein-repair enzyme in the early 1980s, and his research has shown that repairing proteins is important to cells. In the current study, the biochemists reported that life span is significantly reduced under stress conditions in larval worms that lack this repair enzyme. (More than 150 enzymes are involved in repairing DNA damage, and about a dozen protein-repair enzymes have been identified.)

"Our molecules live for only weeks or months," Clarke said. "If we want to live long lives, we have to outlive our molecules. The way we do that is with enzymes that repair our DNA—and with proteins, a combination of replacement and repair."

Researcher Brian Young, now an M.D./Ph.D. student at the David Geffen School of Medicine at UCLA, is co-author on the research, which was funded by the National Institute of General Medical Sciences.



From left to right, Paola Castro and Shilpi Khare



A BEAUTIFUL MIND: NATIONAL HUMANITIES MEDAL WINNER

TEOFILO RUIZ



THE PROFESSOR STARTS HIS FIRST DAY OF A CLASS ON THE HISTORY OF THE IBERIAN PENINSULA WITH AN UNFORGETTABLE FLOURISH BY SIGNING HIS NAME ON THE BOARD AS “STEPHEN DEDALUS” AND INITIATING A LECTURE ON JAMES JOYCE’S ULYSSES. WHEN THE STUDENTS TELL HIM THAT IT IS A HISTORY CLASS, HE GATHERS HIS THINGS AND LEAVES. AND RETURNS SHORTLY AFTERWARD. THAT, AND SIMILAR OPENING-DAY-AT-SCHOOL GAMBITS, ARE ONLY ONE SMALL PART OF WHAT MAKES TEOFILO F. RUIZ SUCH AN INSPIRATIONAL SCHOLAR.

By Robin Keats

A Man of Honors

In February, the internationally recognized historian traveled to Washington, D.C., to be awarded the National Humanities Medal from President Obama at a White House ceremony. The prestigious annual award honors individuals or groups whose work has deepened the nation’s understanding of the humanities, broadened the engagement of American citizens with the humanities, or helped preserve and expand access to important resources in the humanities. Previous medalists have included Nobel Prize-winning author Toni Morrison, novelist John Updike, Nobel Peace Prize laureate and author Elie Wiesel and filmmaker Steven Spielberg.

According to a White House announcement, Ruiz’s “erudite studies have deepened our understanding of medieval Spain and Europe, while his long examination of how society has coped with terror has taught important lessons about the dark side of Western progress.” Princeton University Press published Ruiz’s new book, *The Terror of History—On the Uncertainties of Life In Western Civilization* last year.

The National Humanities Medal is only the latest in a series of honors that highlight Ruiz’s career. He’s been chosen as Outstanding Master’s Universities and

Colleges Professor of the Year by the Carnegie Foundation, been given the American Historical Association Biennial Award for the best book on Spanish history; was the 250th Anniversary Visiting Professor for Distinguished Teaching at Princeton, been honored by The Institute for Advanced Study, received a NEH Fellowship and was a Guggenheim Fellow. Articles and books (published in America and Europe)—including his latest, *A King Travels—Festive Traditions in Late Medieval and Early Modern Spain*—flow from his pen in rapid progression.

An Academic in Revolution

Born into a middle-class family, Ruiz grew up in Cuba in an environment that fostered a love of learning. Nine of his aunts were teachers, and his father was an attorney in whose library the young scholar found Alexandre Dumas, Victor Hugo and Sir Walter Scott. Across the street from Ruiz’s boyhood home was Ernest Hemingway’s farm, Finca Vigia, which had an outdoor stone table where Ruiz would sit and read those iconic authors’ complete works.

At the age of 17, he was hired to help generate anti-Batista propaganda. As the Cuban Revolution gained momentum, Ruiz put down the books and took to painting revolutionary messages on walls. “I was swept [up] by the Revolution,” he said. “It had a tremendous impact on my life and my point of view, and it still does.”

But Ruiz found himself disaffected in the swirl of revolutionary events, was arrested for a short while and then released to make room for prisoners captured at the abortive Bay of Pigs invasion. He immigrated to the U.S., ending up in New York City, where he drove a cab and worked at Continental Can Company before matriculating from Brooklyn College. In 1974, Ruiz received his Ph.D. from Princeton University. Since then, he taught at both Brooklyn and Princeton, the CUNY Graduate Center, the University of Michigan and the École des Hautes Études en Sciences Sociales. He’s been at UCLA since 1998.

A Cuban Returns to Cuba

It has taken a half-century for Ruiz to return to his homeland. But he finally did go back to Cuba, traveling there on a UCLA Alumni excursion this past winter. “I had two sets of memories, what was and what is,” he said of the trip. “Walking through my hometown (just outside of Havana) was depressing. And it was also exhilarating.”

In a personal account of his journey for friends, Ruiz wrote, “I could not or would not return in the early years because of threats to my freedom. Then, the restrictions imposed by the Cuban government on those Cubans wishing to visit the island kept me away. Finally, already old, I continuously reminded myself of how much I needed—for a whole series of complex issues—to take this sojourn ... If I resisted my return, it was because I fully understood and feared the psychological impact of such a re-encounter with my lost youth, of the probable erasure that may occur of my carefully nurtured memories of my early life, of places, people and events.”

His boyhood home did seem much smaller to him now, as it does for all those who brave going home again. But the great historian came to terms with his own history.

“I had not cried at the sight of my hometown’s ruins,” Ruiz wrote. Still, “I, who do not cry for the dead, cried at the shimmering beauty of the place that had once been my home and was, finally, home again.”



“I, who do not cry for the dead, cried at the shimmering beauty of the place that had once been my home and was, finally, home again.”



africa speaks, america answers: robin kelley on afro-jazz pioneers

AT A TIME WHEN THE MUSIC OF SOUTH AFRICAN JAZZ GREAT HUGH MASEKELA IS MORE LIKELY TO BE HEARD IN AN ELEVATOR THAN A BOOTLEG RECORDING, IT'S HARD TO IMAGINE AN ERA WHEN COMBINING JAZZ AND AFRICAN MUSIC WOULD HAVE BEEN CONSIDERED REVOLUTIONARY.

By Meg Sullivan

A new book by a prominent UCLA historian revisits the period in the late 1950s and early 1960s when African musicians began to swing and American jazz artists turned to Africa in an attempt to nudge the art form beyond bebop. In *Africa Speaks, America Answers: Modern Jazz in Revolutionary Times*, Robin D. G. Kelley documents the struggles faced by four trailblazers who dared to mix African influences and jazz: the late Ghanaian drummer Guy Warren; the American pianist Randy Weston, now 86; the late American bassist and oud player Ahmed Abdul-Malik; and South African vocalist Sathima Bea Benjamin, now 75.

The holder of the Gary B. Nash Professorship of American History at UCLA, Kelley is a prominent historian of African-American culture and jazz in particular. He is the author of seven books, including the critically acclaimed 2009 biography *Thelonious Monk: The Life and Times of an American Original*.

The performers featured in *Africa Speaks* in one way or another crossed Monk's path and influenced a long string of jazz greats, including Cannonball Adderley, John Coltrane and Herbie Mann. They also shared a pattern of volleying between the United States and Africa at a time when more than 20 newly independent nations in Africa brimmed with possibility.

Drumbeat of Change

The newfound enthusiasm for all things African proved a double-edged sword for the era's performers. Take Guy Warren. By the time of his arrival in the U.S. in 1955, the Ghanaian was an accomplished drummer, having helped found The Tempos, considered one of the best bands in West Africa. In 1956, he recorded what Kelley argues is the first LP in history to fuse jazz and African music. The album drew on sacred rituals from West and Central Africa as well as highlife, a fast-paced musical genre that swept through urban Africa in the first half of the 20th century.

Warren went on to record three more albums in the U.S., but his career was eclipsed by Nigerian Michael Babatunde Olatunji. Embraced by Radio City Music Hall and American television, Olatunji played more directly than Warren into American stereotypes of African music with such pieces as "African Drum Fantasy."

"None of (Warren's) songs fit easily into the then dominant stereotype of exotic, ecstatic, highly sexualized African rhythms and dance," Kelley writes. "They do not evoke the jungle or savagery."

Warren returned in 1960 to Ghana. In 1974, he changed his name to Kofi Ghanaba and recorded several albums outside the U.S. before his 2008 death.

Arab Jazz

American taste for popularized versions of ethnic music also haunted the career of native New Yorker Ahmed Abdul-Malik. The bassist mastered the oud, a pear-shaped North African string instrument, and launched a career as a solo artist fusing jazz and the music of the Muslim world.

Abdul-Malik experimented with the music's complex time signatures and modes that extend beyond Western diatonic or chromatic scales. But he also was upstaged by a musician whose music played more directly into stereotypes. Lebanese movie star, singer and oudist Mohammed El-Bakkar produced six albums beginning in 1957 with



Robin Kelley

such names as *Exotic Music of Belly Dancing* that featured scantily clad women as cover art. Even against such competition, Abdul-Malik managed to cut the first Arab-jazz fusion recording, *Jazz Sahara*, in 1958. He ended up serving as the leader on six albums through 1964 before devoting himself to teaching until his 1993 death.

The Music of Liberation

Sathima Bea Benjamin's music also did not strike recording executives as "African enough"—even though she was born in Johannesburg and raised in Cape Town. An interpreter of jazz standards and American and British ballads, Benjamin has been compared to Sarah Vaughn, Ella Fitzgerald and Billie Holiday for her poignant, uncluttered phrasing.

Kelley portrays Benjamin as part of a vibrant apartheid-era community of musicians devoted to modern jazz, which she saw as "the most liberating music on the planet." But the choice cost Benjamin the success enjoyed by such South African contemporaries as Miriam Makeba or male South African musicians like Masekela and Benjamin's pianist husband Abdullah Ibrahim (also known as Dollar Brand).

"In an era when modernists sought ways to express the cry of freedom and the cadences of mass resistance, Benjamin's sensitive love songs were often drowned out," Kelley writes.

In 1959, Benjamin recorded what would have been the first South African jazz album, but it was never released. A recording session arranged four years later by Duke Ellington met the same fate. However, a tape of the session was rediscovered in 1994 and released to critical success as *A Morning in Paris*. She enjoyed the most success while living in New York, releasing eight discs between 1979 and 2006. Benjamin recently returned to live in South Africa.

Music Manifesto

Of the four artists, New York native Randy Weston, who has recorded more than 40 albums and still performs, enjoyed the greatest success. "He had no grand ambitions to bring jazz to the continent or to launch a musical revolution," Kelley said. "He simply wanted to connect with his ancestor's people."

The son of a Jamaican father loyal to black nationalist Marcus Garvey, Weston saw African music as a manifestation of Garvey's pan-African philosophy. Weston grew up with Abdul-Malik and was influenced by his interest in North African music. The pianist really hit his stride while working in the 1950s at a summer music institute in the Berkshires that traced jazz's heritage back to West African slaves. Weston immersed himself in music from a range of African countries through association with musicians who had emigrated from Africa, recordings of African music

and a jazz group at the United Nations.

Weston poured these influences into the four-part suite *Uhuru Afrika*, Swahili for "Freedom Africa," with lyrics by the African-American poet Langston Hughes. Recorded in 1960 with an all-star band, including guitarist Kenny Burrell, the jazz icon and UCLA professor of ethnomusicology, the piece became the period's "manifesto, a declaration of independence for Africa and mutual interdependence between the continent and its descendants," Kelley writes.

In 1961, Weston went to Africa as part of a U.S. cultural delegation to Lagos, Nigeria. The experience inspired the 1963 recording *Music from the New African Nations Featuring the Highlife*, which Kelley argues is a masterpiece on par with *Uhuru*, and the 1964 recording of The "African Cookbook Suite", one of Weston's most requested pieces.

Weston moved to Morocco in 1967 for five years, studying with the Gnawa, mystics known for the healing power of their music. The experience culminated in a string of jazz standards and a style that "makes one want to dance and pray all at the same time," Kelley said.



STAR-CROSSED

UNEARTHING THE STORY BEHIND STRAVINSKY'S FAILED PERSÉPHONE BALLET

COMPOSER IGOR STRAVINSKY IS REVERED FOR HIS DAZZLING SCORES TO SUCH BALLETS AS *THE FIREBIRD*, *PETRUSHKA* AND, ESPECIALLY, *THE RITE OF SPRING*—A BALLET SO REVOLUTIONARY THAT ITS 1913 OPENING FAMOUSLY SPARKED A RIOT.

By Meg Sullivan

The Rite's debut is such a red-letter date in music history that its 2012-2013 centennial is being marked with no less than three scholarly conferences and over 11 performances of either the score—which will be performed in September by the Los Angeles Philharmonic—or the entire ballet. But what most Stravinsky lovers don't realize is that the Russian émigré, who eventually landed in Los Angeles in 1940, also was associated with a far less celebrated debut.

UCLA Professor of Musicology Tamara Levitz, one of the world's preeminent Stravinsky authorities, has spent a decade unearthing the star-crossed story of *Perséphone*, a 1934 ballet that played just three nights at the Paris Opéra before

closing to negative reviews and the performance's collaborators at odds with one another.

In the failed collaboration, Levitz believes she has found a window on a little known and contradictory time that shares key elements with our own. In her forthcoming book, *Modernist Mysteries: Perséphone*, Levitz shows how the folly was largely the result of a tug of war between the first glimmerings of a gay rights movement and the rise of a religious right. In the opulent performance staged in France during The Great Depression, she also finds parallels to extravagances that she has witnessed in America's—and Los Angeles's—art scene since the 2008

downturn.

"You go into a moment that nobody cares about, and you realize that the whole world is in that little moment," Levitz said.

Performing Below the Barre

The ingredients certainly weren't to blame for the soufflé's collapse, Levitz found. Since antiquity, writers have successfully mined the myth about the abduction and descent into Hades of the daughter of harvest goddess Demeter. As a result of Demeter's grief in losing her daughter, living things cease to grow. To quell Demeter's grief, Zeus sends Hermes to the underworld to fetch Perséphone, who returns to earth, but only for two-thirds of the year. When Perséphone goes back to Hades, Demeter's grief returns, and living things again die, thus making her responsible for the cyclic nature of the growing season.

Ida Rubinstein, a former star performer with the famed Ballets Russes who bankrolled the production with her own vast inheritance, managed to assemble a dream team of collaborators: well-known author André Gide as the librettist, Stravinsky as composer and conductor, influential French theatre director Jacques Copeau as director; and choreography by German expressionist choreographer Kurt Jooss.

Unfortunately, however, each collaborator saw a different reflection in the myth's mirror, Levitz found. Gide, already an activist for homosexual rights, had been rewriting the myth for decades in different forms as a metaphor for what Levitz describes as his "pédérastie, or love of young men in the Greek tradition." Stravinsky, who had returned to the Russian Orthodox church of his St. Petersburg youth, twisted Gide's celebration of the pleasures of the flesh into a manifestation of religious ceremony. Copeau also shared

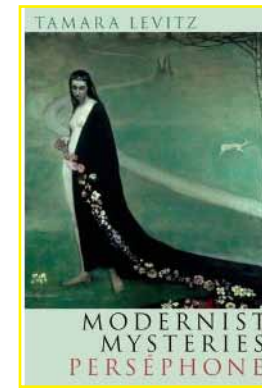
Stravinsky's desire to infuse the myth with sacred Christian rituals, but he wanted to celebrate the Catholic—not the Russian Orthodox—faith. Jooss, a secular and literal modernist, sought to communicate the message of the ancient myth through gestures imitated from ancient art and everyday movements.

For her part, Rubinstein, an icon and muse in Paris's lesbian community for her sinuous physique and the opulence of her ballet productions, had long identified with Perséphone, even posing in portraits that portrayed her as the mythical figure. In staging the production that fused singing, pantomime and spoken word with dance, the performer, by then almost 50, was trying to keep alive not just her career but also Symbolist theater, an aesthetic approach that was then about 20 years out of date but was favored by members of her lesbian circle.

It also didn't help that she cast herself as Perséphone and put a 26-year-old in the role of Perséphone's mother—or that she independently choreographed her own parts and kept the details from her collaborators until the day before the performance.



Tamara Levitz



"You go into a moment that nobody cares about, and you realize that the whole world is in that little moment."

Moving Out of the Center

Not surprisingly, reviewers skewered the muddled results: "It is embarrassing to watch the burlesque scenic parody to which Mme. Rubinstein condemns this work," one wrote, summarizing sentiments.

Levitz is the descendent of Russian and Polish Jews as well as Irish and English immigrants whose children ultimately settled in Quebec. So she was drawn to the story by its wealth of émigré characters: Rubinstein and Stravinsky could not return to Russia after the Bolshevik Revolution, and Jooss had fled Germany after the Nazis insisted that he fire Jews from his dance company.

"That's always my fascination—people who have moved out of their center and are working in a transnational setting," she said.

But it was the melodrama's tentacles that ultimately ensnared her. A Buenos Aires performance in 1936 influenced the development of literary modernism in Argentina. The influential teacher of composition Nadia Boulanger, a friend of Rubinstein who performed portions of *Perséphone* in concert days after its premiere in the Opéra, went on to teach the score to generations of composers. Avant-garde American theater director and UCLA professor Peter Sellars recently revived the ballet in Spain, citing a longtime fascination with the piece.

As a result of her work, Levitz has been invited to serve as the coordinator for "Stravinsky and His World," a two-week festival being planned for next summer at Bard College in New York. A revival of *Perséphone* at Bard is a possibility—not that Levitz is holding her breath.

"It's not one of those revive-it-please pieces," she said.



BACK TO SCHOOL

What Three UCLA Professors Learned From the Mellon New Directions Fellowship

WHAT HAPPENS WHEN PROFESSORS GO BACK TO SCHOOL? WHAT PRESSURES DO THEY FACE? WHAT EPIPHANIES DO THEY HAVE? WHAT KIND OF STUDENTS DO THEY MAKE? AND, MOST IMPORTANTLY, HOW DO THEIR TEACHING AND SCHOLARSHIP CHANGE AS A RESULT OF BEING BACK ON THE OTHER SIDE OF THE LECTERN?

By Jack Feuer

For three UCLA Humanities professors, the idea is anything but academic. The three have each received a New Directions Fellowship from the Andrew W. Mellon Foundation, an honor that allows mid-career faculty to go back and receive systematic training outside of their discipline.

Designed to promote interdisciplinary research in the humanities, the fellowship pays for up to 15 mid-career professors nationwide to return to school for formal training in a discipline other than the one in which they are expert. By also covering a recipient's salaries and benefits over the program's 18-month term, the fellowship leaves the scholar's home institution with enough resources to hire a temporary replacement.

In March, Gil Z. Hochberg, an associate professor of comparative literature and women's studies, became the latest UCLA professor to be awarded a Mellon New Directions grant. Having written about Israeli and Palestinian literature, Hochberg will enroll in an immersion program in Palestinian Arabic dialect and study cultural heritage at Al-Quds University in East Jerusalem. In 2009, fellow comparative literature scholar Eleanor Kaufman used the grant to study medieval philosophy. Three years earlier, Carol Bakhos, a Jewish Studies professor, received a fellowship to study interpretations of the Qur'an at Princeton.

"We're so grateful to the Mellon Foundation because this program helps

scholars grow and improve while protecting the teaching strength of the Humanities Division," said David Schaberg, acting dean of UCLA's Humanities Division. "We're also proud of Gil for taking on such an arduous course of study in the interest of promoting understanding in such a conflict-ridden area of the world."

Two Languages, One Hope

Hochberg, whose research up to this point has explored contemporary Israeli and Palestinian literature, is a native speaker of Hebrew, and she reads but doesn't speak Arabic. At least, not yet.

She said she will use the 18-month fellowship first to study the Palestinian dialect of Arabic for one year at Al-Quds University in East Jerusalem and secondly to study Palestinian culture in its relationship to Islam.

"I can read Arabic but I don't have the vernacular, so I don't have a valid speaking capacity," Hochberg explained, noting that the Palestinian dialect is distinct among Arabic speakers.

That's critical for her scholarship because "I've moved into visual materials, including films, experimental documentary and performance realms in which the



Gil Z. Hochberg

"It felt like such an enormous freedom to be one of the students who had the most to learn instead of the person expected to be the authority."

spoken word is really important. My sense is that in order to get a profound and deeper understanding of the contemporary culture of a people so torn apart and in struggle, you have to have the language that people use to talk to each other."

For Hochberg, going back to school has even larger implications. She hopes it may help her make one small but significant contribution toward a future of coexistence, mutual respect and true equality between Palestinians and Israeli Jews in Israel and Palestine.

"I strongly believe things don't have to be as they are," she said. "I am profoundly attached to Israel. It pains me that Israel is what it is. I want it to be a better place and the only and most important place to start is Palestine."

The Eternal Student

Carol Bakhos, associate professor of late antique Judaism and Jewish Studies, points out that "as scholars, we're always students" but admits the experience of returning to school in 2006 "reignited all those juices that flow when you're embarking on a new journey ... it was an immensely rewarding, joyful experience to be a student again, as well as fascinating, because you're looking at your instructor from a different perspective and making assessments about how you might be a more effective instructor."



Carol Bakhos

Her 18 months as a Mellon New Directions student allowed Bakhos to hone her skills

in Arabic, "with an eye toward reading medieval Islamic interpretive texts, learning about the field of the Qur'an and early Islam and Qur'anic exegesis, and becoming familiar with the secondary sources as well as the primary sources." And she plans to continue that study because "it's unrealistic to think that you can fully master an area of study—in a year. The Mellon Fellowship provides scholars with an opportunity to build, or reinforce, a foundation in a subfield or a related area of study." Her monograph on Jewish, Christian and Islamic interpretations of the family of Abraham is expected out in the spring of 2013.

As for what kind of student she was, Bakhos said, "I had the luxury of not needing to take the finals, and yet because I was such a nerd, I took them anyway. It reminded me to appreciate the anxiety that students have around exams and just how much they have to juggle."

Enormous Freedom

During the 2009-2010 school year, Eleanor Kaufman, professor of comparative literature, English, and French and Francophone Studies, used her Mellon New Directions fellowship to study medieval philosophy at St. Louis University, attending graduate seminars. She observed that "at SLU, there were also quite a few seminary students present from different (Catholic) orders, and these graduate students were on the whole much more knowledgeable than I was about the material, so I learned a great deal from the other students as well as the professors. It felt like such an enormous freedom to be one of the students who had the most to learn instead of the person expected to be the authority, something I

miss tremendously from my student days. And the material I was studying, with its very particular form of logic, is so difficult (at least for me) that it was like living in Los Angeles—there was the feeling of being able to explore it infinitely with the sure knowledge you wouldn't cover it all."

Kaufman's fellowship was an extension of something she's done all along. She explains: "I have tried in the years that I've been a professor to keep taking classes and learning new things—mostly foreign languages and different forms of emergency preparedness training, subjects I have less aptitude for than medieval philosophy—so those experiences were good preparation for my Mellon adventure, which has certainly been the greatest windfall of my professional career."

In sum, Kaufman's fellowship had direct positive impact on her own work.

"I did what I set out to do, which was to study Aquinas in the hope of linking his thought to the 20th-century French philosophy I work on," she said, "which tends, if it addresses Scholastic philosophy at all, to dismiss it entirely. I think my initial hypothesis, that there are in fact some very profound connections between these disparate philosophical domains, was even more on target than I envisioned, as I have found many additional connections alongside the ones I set out to focus on. My studies of medieval philosophy in fact allowed me to write a much more ambitious introduction to a book on the French philosopher Gilles Deleuze that I was finishing (*Deleuze, the Dark Precursor*)."

—With Meg Sullivan and Alison Hewitt

Weaving Words: American Sign Language Instruction Comes to UCLA

AS A REGULAR CONTRIBUTOR TO THE DAILY BRUIN, ASAD RAMZANALI WAS INTRIGUED WHEN A FELLOW STUDENT MENTIONED AN APPETITE ON CAMPUS FOR INSTRUCTION IN AMERICAN SIGN LANGUAGE (ASL).

By Meg Sullivan

"It was something I never thought of, but I thought it might make for a good piece," recalled the economics major. Indeed it would: American Sign Language has risen to become the fourth most frequently studied foreign language taught on U.S. college campuses.

So in October 2010, Ramzanali wrote a passionate *Daily Bruin* column urging university administrators to offer ASL and to allow the instruction to count toward the university's foreign language requirement for undergraduates. He elaborated on his idea in a 13-page report, complete with tables and pie charts, which he emailed to Tim Stowell, who at the time was dean of the Humanities Division within the College of Letters and Science. Foreign language instruction falls under the division.

Doing His Homework

Ramzanali pointed out in his report that an estimated 100,000 to 500,000 people are fluent users of ASL, though the precise number is not known. He also provided nationwide totals for student enrollment for the 14 most commonly taught languages in U.S. institutions of higher learning between 1968 and 2009. ASL ranked fourth behind

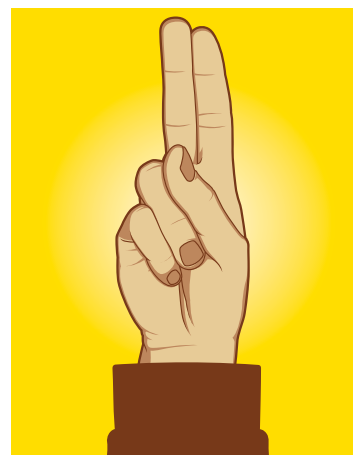
Spanish, German and French as the most frequently studied language.

Ramzanali also compiled a page-long list of email addresses for UCLA students who had expressed an interest in studying ASL. He even enlisted friends to survey fellow undergraduates via Facebook, an undertaking that showed that 82% of responders felt UCLA should offer ASL, and 56% said they would take ASL if it were offered.

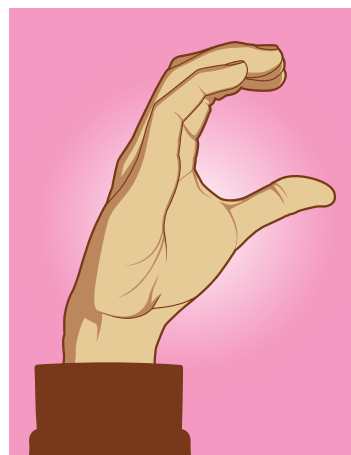
"He did this amazing research project," recalled Stowell, who has since returned to his faculty position in linguistics. "He basically assembled all kinds of arguments based on MLA (Modern Language Association) statistics. Did you know that ASL is the fourth most popular non-English language instruction in terms of enrollments nationwide? I didn't know that before I read (Ramzanali's report)."

Show of Hands

Over the summer of 2011, Lucy Blackmar, assistant vice provost of undergraduate initiatives, and Kyle McJunkin, the College's director of curriculum coordination and operations, visited UC San Diego (UCSD) to study its ASL program. They also met with UCSD Communications Professor Carol



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Padden, a noted authority on deaf studies and a MacArthur grant winner who has written extensively on topics dealing with deaf culture and sign language.

Buoyed by Blackmar's and McJunkin's findings, UCLA's linguistics faculty voted in early October to unanimously support plans to institute ASL instruction, and they filed a formal proposal with the College's Faculty Executive Committee (FEC), citing a number of points made by Ramzanali.

The FEC approved the proposal on Nov. 18 and forwarded it to the Curriculum Committee of the Undergraduate Council of the Academic Senate, which approved the proposal Nov. 22. The Undergraduate Council, which is the final authority on the matter, approved the proposal at its Dec. 9 meeting.

Signing Up

Beginning in January 2012, undergraduates were allowed to satisfy the College's foreign language requirement with ASL.

The Linguistics Department plans to begin offering ASL as early as this summer after receiving seed funding from Vice Provost for Faculty Development and Diversity Christine Littleton, Dean and Vice Provost of Undergraduate Education Judith Smith and Interim Humanities Dean David Schaberg, who succeeded Stowell last September. As with all foreign language programs on campus, ASL coursework can count toward the three quarters of foreign language instruction required of most UCLA undergraduates. A symposium on ASL is being planned for sometime next year.

The Linguistics Department, under the direction of department chair Anoop Mahajan, has hired ASL instructor Ben Lewis, a recent graduate of Gallaudet University who has taught ASL in three countries, as a lecturer to teach ASL courses and an upper division course on issues of deaf communities next year.

After two years, the program will be evaluated to see if interest has met

"There's no debate among linguists. [Sign language] is as rich and complex as any other human language."

expectations. Supporters hope the pilot program will be the first step toward establishing a minor in deaf studies at UCLA. UCLA already offers a minor in disability studies.

A Movement with Momentum

In introducing sign language, UCLA joined

a growing trend. Enrollment in ASL courses nationwide has jumped 800% since 1998. ASL instruction and deaf studies are offered at many universities around the country, with major programs at the universities of Washington, Arizona, Iowa, Texas, Minnesota and UC San Diego. At UCSD and the University of Washington, beginning ASL courses are so popular that demand often outstrips capacity. More than 200 students each year join wait lists for the courses at these schools. Yet ASL has not enjoyed the same stature as foreign languages, possibly due to the misconception that it cannot convey the subtleties and complex meaning that spoken languages do. But scholars increasingly challenge this point of view.

"There's no debate among linguists," Stowell said. "It's as rich and complex as any other human language."

Among UCLA undergraduates, interest in deaf culture appears to be growing. In 2010, a group of students formed HEARD

(Humans Expanding Awareness Regarding Deafness) with the goal of studying the culture and language of deaf Americans. Some 200 students have signed up to be on the group's email list, and more than 40 students attended the first meeting, according to Moses Sumney, the organization's president.

Additionally, students with hearing difficulties have recently risen to leadership positions in the student body. Nick Matthews, the senior who is captain of UCLA's debate team, has a hearing impediment. Derrick Coleman, a senior running back on UCLA's football team, also wears hearing aids.

As for the determined student journalist who began the ASL movement on campus, Ramzanali, now employed by Intuit in Northern California, said via email that he modeled his appeal to Stowell on business plans that he learned to develop while active in the UCLA Global Business Brigade, a nonprofit group that mobilizes student and professional volunteers to improve the quality of life for communities in developing countries. And something else: Ramzanali also learned something about the university.

"A lot of people get the perception that UCLA is too bureaucratic and that it can't change. But I don't believe it's true," he said. "The bureaucracy can be frustrating, but (administrators are) willing to talk to you, to respond to you."

A very good sign indeed. In any language.



INCREASING THE DIVERSITY PIPELINE
THE MCNAIR AND MELLON MAYS PROGRAMS

SINCE ITS FOUNDING, UCLA HAS BEEN A BEACON TO ALL THE PEOPLE OF CALIFORNIA, THE MOST DIVERSE STATE IN THE COUNTRY. THIS VALUE HAS PAVED THE WAY FOR COUNTLESS YOUNG MEN AND WOMEN TO REALIZE THEIR DREAMS IN MANY WAYS—AND TO MAKE THE GOLDEN STATE BETTER FOR IT. HERE ARE TWO OF THE MOST POWERFUL COLLEGE PROGRAMS PROMOTING DIVERSITY.

By Mary Daily

A Commitment to Social Change

When Ali Valenzuela transferred to UCLA from Rio Hondo Community College, he thought he'd go to law school after earning his bachelor's degree. But that changed when he learned about the UCLA McNair Research Scholars Program.

The two-year program prepares undergraduates from groups traditionally underrepresented in academic careers to attend top graduate schools and become professors in the humanities and social sciences. It attracts students who use scholarship and research to achieve social justice. The program enables them to think about and discuss what it means to be underrepresented in the academy, said Dr. Alice Ho, program director.

Today, after earning a Ph.D. at Stanford, Valenzuela is completing a postdoc at Princeton University. And he is set to become an assistant professor on a tenure

adolescents whose parents had been deported." She credits McNair with teaching her that research was not just about adding to her CV but about "bringing awareness to an issue that contributed to the marginalization of communities of color."

McNair scholar Cori Tucker, now a graduate student at Harvard, says her life changed after she saw a poster for the McNair program in Campbell Hall. She credits McNair with "cultivating the scholar" within her.

The McNair program admits only 26 first-generation, low-income and underrepresented juniors and seniors a year. It is named for Ronald E. McNair, who was the second African American astronaut to join NASA and one of the seven aboard the Challenger shuttle when it exploded in January 1986. UCLA's program, one of 200 nationwide, began in 2003 and is one of only a few programs devoted exclusively to the

the program, which began in 2008.

The value of MMUF is manifest in Yvette Martinez-Vu, who came to UCLA as a freshman from an under-resourced high school in the San Fernando Valley and had not considered graduate school. An English literature major, she found her studies difficult. Yet when she describes those early years, she often mentions wanting to "push forward" toward the next challenge.

Today, thanks to MMUF, she is a second-year Ph.D. student in theater and performance studies at UCLA. She also serves as a graduate mentor for the program.

MMUF serves not only minority students but also others who have demonstrated a commitment to eradicating racial disparities. Mellon Mays fellows pursue Ph.D. degrees but must choose from among specific academic fields in the arts and sciences. Both programs seek to diversify

She credits McNair with teaching her that the research was not just about adding to her CV but about "being a responsible and socially conscious citizen and bringing awareness to an issue that contributed to the marginalization of communities of color."

track in August, one of only two Hispanic junior faculty members in the social sciences at Princeton.

"McNair set the tone and direction for all of my academic pursuits since I got to UCLA," he said.

A political scientist, Valenzuela specializes in American electoral politics with an emphasis on Latino political behavior. Next fall, he will teach identity politics and Latino politics. And, as he has since his days at Stanford, he will mentor undergraduates, hoping to pass on to them some aspects of what the McNair program did for him.

Another McNair graduate, Elizabeth Gonzalez, is a third-year Ph.D. student in developmental psychology at the University of California, Santa Cruz. She noted, "The McNair program has been the single most influential program in shaping me as a social justice research scholar."

She points to her undergraduate research project that examined "the ambiguous loss experienced by Latino

humanities and social sciences.

UCLA McNair scholars follow a rigorous program under the supervision of faculty members and graduate mentors. Each scholar has a teaching or tutoring opportunity and may receive more than \$8,000 in research stipends.

Supporting Scholars Beyond Graduation

Another program with a similar mission is the Mellon Mays Undergraduate Fellowship Program (MMUF), funded through five-year grants from the Andrew W. Mellon Foundation. The program is named for Dr. Benjamin E. Mays, the African American educator, statesman and minister who was president of Morehouse College and a mentor to Dr. Martin Luther King Jr.

Unlike McNair, MMUF provides benefits beyond graduation that include assistance with student loan repayment and opportunities for graduate school funding and funding during the early years of a tenure-track faculty appointment, said Dr. Reed Wilson, administrative coordinator of

university faculties so that students can learn from a range of perspectives.

McNair and MMUF operate in collaboration with each other and with the Graduate Mentoring and Research Programs unit of UCLA's Academic Advancement Program. They share outreach efforts and research conference opportunities, as well as tutorial preparation for the Graduate Record Exam (GRE). The directors work together to ensure that the two programs don't compete.

Like McNair, MMUF includes intensive undergrad research, completion of a senior thesis and preparation for graduate school. Of the 10 fellows who have completed MMUF at UCLA so far, two are beginning their second year in Ph.D. programs, several are in Masters programs, and all others are applying to graduate school.

"The experience has solidified my pursuit to become a professor," Martinez-Vu said, "so I can help students access resources they might not otherwise have."

A Powerful Catalyst for Sharing Knowledge

The Luskin Endowment for Thought Leadership in the College

By Margaret MacDonald



Left to right: Renee Luskin, Meyer Luskin, Gene Block

AS A UCLA UNDERGRADUATE, MEYER LUSKIN COMMUTED TO CAMPUS FROM THE WORKING-CLASS COMMUNITY OF BOYLE HEIGHTS. WORLD WAR II ACTIVE DUTY INTERVENED, AND LUSKIN RETURNED TO UCLA WITH A \$30 SCHOLARSHIP THAT ALLOWED HIM TO COMPLETE HIS ECONOMICS DEGREE. A FEW YEARS LATER, HE MET HIS FUTURE WIFE, RENEE, WHILE SHE WAS A SOCIOLOGY UNDERGRADUATE AT UCLA—AND THE COUPLE IS NOW IN THEIR SEVENTH DECADE OF GIVING BACK TO THE UNIVERSITY.

A Southern California business leader, Luskin has long been a passionate advocate for UCLA's role as a public resource and agent for social mobility. In 2011, the Luskins donated \$100 million to the campus, the second largest gift ever received. They directed a portion of this transformative gift to the College of Letters and Science: the Luskin Endowment for Thought Leadership, which enables the College to present a broad range of research and scholarship to campus and public audiences, thus serving as a powerful catalyst for sharing knowledge.

"This pivotal endowment is of immense importance to College faculty," said Judith L. Smith, dean and vice



provost for undergraduate education. "It enables resource-challenged academic departments and research centers, in particular those in the humanities and social sciences, to organize and stage academic conferences. This funding helps broaden and strengthen not only our faculty's collaboration with other top scholars in their fields but also their engagement with civic leaders and the general public on many issues."

A portion of the Luskin Thought Leadership endowment supports the Luskin Lecture for Thought Leadership, presented annually by a major international leader or public figure. In May, the inaugural lecture, delivered by President Bill Clinton at UCLA's Royce Hall, drew hundreds of students and members of the public.

Prior to the start of the Luskin Lecture, Chancellor Gene Block presented the first Fiat Lux Award to Meyer Luskin in recognition of his extraordinary service to UCLA. This new award honors distinguished people or organizations whose

contributions to the university have had a transformational impact on the campus.

"The multidisciplinary education I received at UCLA has helped me immeasurably in business, whether it's organizational, management or philosophical issues," said Luskin, a history enthusiast. "The Luskin Lecture is a way for us to give back in a creative and unique way that helps UCLA to continue its important work with the broader community."

PHOTOS BY ANN JOHANSSON



BACK ON CAMPUS: PROMINENT ALUMNI TO DELIVER COMMENCEMENT ADDRESSES

HIGHLY ACCOMPLISHED ALUMNI RETURN TO CAMPUS TO DELIVER COMMENCEMENT ADDRESSES FOR THEIR HOME DEPARTMENTS IN THE COLLEGE OF LETTERS AND SCIENCE, WHICH IS AWARDING BACHELOR'S DEGREES TO MORE THAN 6,000 STUDENTS FOR THE 2011-12 ACADEMIC YEAR.

Mary Rose Brusewitz—Anthropology
Mary Rose Brusewitz is partner-in-charge of the New York office and co-head of the international practice of the law firm of Strasburger & Price LLP. She specializes in transactions for Latin American companies, particularly in emerging markets. Brusewitz is also an adjunct professor of the International Transactions Clinic of the University of Michigan Law School. She received a B.A. in anthropology and a J.D. from UCLA.



Michael J. Burry—Economics
Dr. Michael Burry, former head of Scion Capital Group LLC, was the first to foresee America's financial collapse, and he predicted that the housing bubble would burst as early as 2007. He was profiled in *The Big Short*, by Michael Lewis. Dr. Burry earned a B.A. in economics from UCLA and his M.D. at Vanderbilt, but he left medicine after his third year of residency in neurology to become a full-time investor.



Chester ("Chet") J. Pipkin—History
Chet Pipkin founded Belkin International, an award-winning global technology and consumer electronics brand leader, in his parents' garage while majoring in history at UCLA. He has been an advisor and board member for many non-profit local and state organizations, and is an active civic leader in public policy for education, resource management and technology. He also serves on the UCLA History Department's Board of Advisors.



Gary Knell—Political Science
Gary E. Knell is President and CEO of NPR, overseeing worldwide media operations and partnerships with 900 public radio stations. In addition to a three-decade public media career, Knell was counsel to the U.S. Senate Judiciary and Governmental Affairs committees, and worked in the California State Legislature and governor's office. Currently a member of the Council on Foreign Relations, Knell received a B.A. in political science and journalism from UCLA and a J.D. from Loyola University School of Law.



Kal Penn—Sociology
Actor/producer Kalpen S. Modi (aka Kal Penn) is best known for his work on *The Namesake*, *House*, the *Harold and Kumar* franchise and *How I Met Your Mother*. From 2009 to 2011, Modi served as associate director in the White



House Office of Public Engagement. He has also served as an adjunct lecturer in sociology, film and Asian American studies at the University of Pennsylvania. He holds a B.A. in sociology from UCLA.

Sadiqa Stelzner—Ecology and Evolutionary Biology
Dr. Sadiqa Stelzner is chief of Ophthalmology at Santa Monica-UCLA Medical Center and Orthopedic Hospital, director of Eye Care at the Greater Los Angeles Veteran's Hospital, and assistant clinical professor at the David Geffen School of Medicine/Jules Stein Eye Institute at UCLA. She specializes in cataract, laser and eyelid surgeries, and has worked with humanitarian organizations in Mexico and El Salvador. She holds a B.A. in biochemistry and an M.A. in biology from UCLA; she earned her M.D. from Boston University.



Mikel Elliott—English
Mikel Elliott is CEO of Quixote Studios LLC, the market leader in high-end studio and production services. Elliott started out by using his stepfather's motor home to drive commercial photographers to photo shoots. He soon bought a second motor home and enlisted fellow UCLA English major Jordan Kitaen. Since 1995, they've led the way in luxury production vehicles with the recent introduction of an environmentally friendly fleet. He holds a B.A. in English from UCLA.



Anna Lee Fisher—Chemistry
Dr. Anna Fisher became the first mother in space when she embarked on mission STS-51A on the space shuttle Discovery. Currently, she works technical assignments at NASA's shuttle branch while awaiting assignment as either a space shuttle crewmember on a space station assembly mission or as a crewmember aboard the International Space Station. She holds bachelor's and master's degrees in chemistry as well as an M.D. from UCLA. Dr. Fisher is a member of the Board of Visitors for the UCLA Division of Physical Sciences.



Glen Whitney—Mathematics
Glen Whitney is executive director of the Museum of Mathematics (MoMath) in Manhattan, America's only museum of mathematics. He seeks to change public perceptions of mathematics and improve the way we educate youth in the U.S. Previously, he taught math at the University of Michigan and then joined Renaissance Technologies as a hedge-fund quantitative analyst. He earned a B.S. from Harvard and a Ph.D. in mathematical logic from UCLA.



Stephen P. Milner—Humanities
Stephen Milner is managing partner of Squar Milner, one of California's largest CPA and financial advisory firms. He was previously vice president and corporate controller



for Birtcher Real Estate and a senior tax consultant with Deloitte & Touche. He is a Certified Public Accountant and a member of the State Bar of California. He received his B.A. from UCLA, his J.D. from Pepperdine University School of Law and his Master of Laws (Taxation) from George Washington University.

Howard Preston—Physics & Astronomy
Howard Preston is president of Preston Cinema Systems, a Santa Monica-based motion picture camera equipment company that creates and sells products to control camera zoom speed, and lens and camera products for special camera effects. In 1984, the Academy of Motion Picture Arts & Sciences awarded him a Technical Achievement Award, and in 2006, he received a Scientific and Engineering Award. Preston earned his B.A. and Ph.D. in physics from UCLA, and is on the Board of Visitors for the UCLA Division of Physical Sciences.



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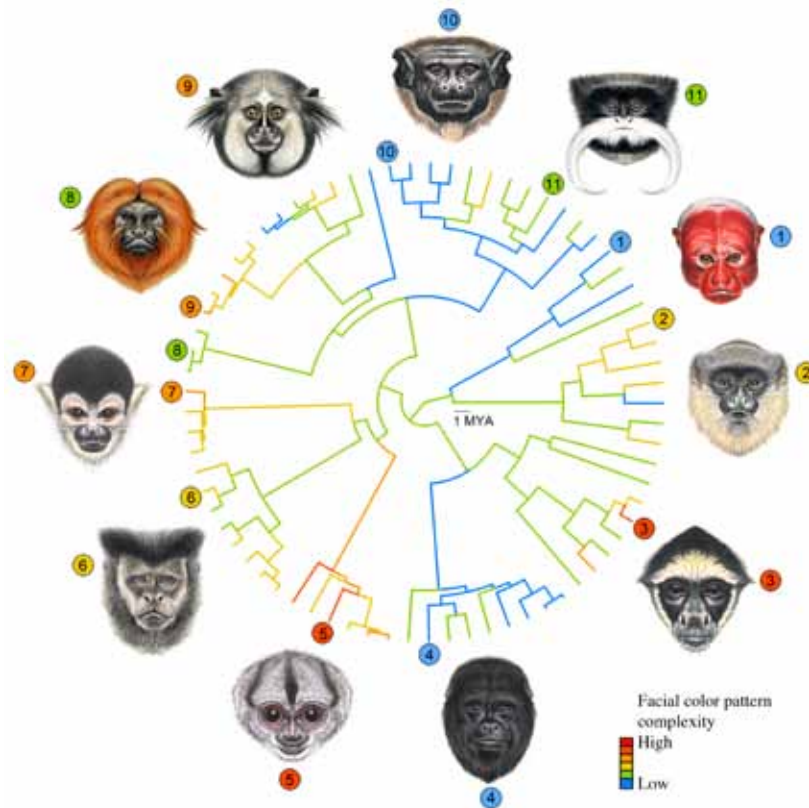


Illustration by Stephen Nash

UCLA evolutionary biologists studied the faces of adult male primates from Central and South America to determine why the faces of primates are so dramatically different from one another. Their research produced the first quantitative evidence linking social behavior to the evolution of facial diversity and complexity in primates. Find out more about what our faces say about our evolution on page 8.