FREE YOUR IMAGINATION

Experience the originality and flair of USC Dornsife's masters of ingenuity.
“While we were in Russia, we first learned this quote: ’Don’t dig a hole for others to fall into,’ ” said Reid Lidow at the March 9, 2013, celebration launching USC Dornsife’s $750 million fundraising initiative. “This program dropped us right into the middle of this hole and asked us to begin to think about how we stop the digging,” Lidow continued. While participating in the Problems Without Passports program, Lidow described how he and 17 other students traveled to Finland, Russia and Sweden to meet with diplomatic, energy and environmental experts. Led by professors Steven Lamy and Robert English, they explored not only how long the Earth’s Arctic ice can be sustained, but also how governance and the forging of transnational partnerships can endure after the ice disappears. Celebrants also heard presentations by two other students: sociology major Jasmine Torres ’14, whose goal is to be an advocate for foster youth, and neuroscience doctoral student Glenn Fox, who uses functional brain imaging to research the emotion of gratitude. Together with Lidow, they demonstrated how USC Dornsife is preparing its students to be the next generation of leaders who will make critical advances in the areas of sustainability, human health and our communities.

PHOTO BY STEVE COHN

REID LIDOW ’14
International Relations and Political Science Major

CONTRIBUTOR
An international relations major created a painting. A physics major penned a short story. An environmental science and health major wrote a song.

This spring, when we sponsored an “I am USC Dornsife” contest, for which we invited students to use their creativity to define how they embody the spirit and mission of USC Dornsife, the submissions were fascinating. In addition to paintings, short stories and a song, we received essays, poems and videos from students across the College.

In her first-place essay describing how her undergraduate experience has led her to this pinnacle moment, Rebecca Braun, an international relations major and French minor, writes, “USC Dornsife has helped make me unlimited, unable to be bound by national frontiers, stereotypes or academic assumptions.” Second-place winner Brittany Lala, a neuroscience and biological sciences double major, created two paintings — one of a human mother swaddling her child and the other of a chimpanzee mother hugging her baby — to reflect the innate biological connection among all species. Sociology major John Ingram placed third for his poem “Composing USC,” a collection of three works written to form U-S-C in large letters.

What each of these entries reinforced for me is the critical role USC Dornsife plays as an engine for discovery. There are quite simply no limits to what we can create. We build academic enterprises that transform how we think about and conduct research. We imagine new worlds where characters explore the depths of our humanity. We push the boundaries of our fields by combining disparate disciplines such as history and accounting. We investigate how to form organizations that can do the most good for the greatest number of individuals. While the dreams of our students and faculty members are each unique, there is one common thread. To be realized, these visions require financial resources. To ensure that discovery does not have to wait, I invite you to join USC Dornsife’s $750 million fundraising initiative as part of The Campaign for the University of Southern California, the most ambitious fundraising effort in USC’s history. Together, with your support, we can create a future that knows no bounds.
THE CREATIVITY ISSUE

20 Castle in the Clouds
In a stratospheric leap for neuroscience, researchers at the Brain and Creativity Institute are limited only by their imaginations. By Pamela J. Johnson

28 Crood Awakening
In The Croods, the new box-office hit from DreamWorks Animation, Kirk DeMicco ’91 has created an endearingly dysfunctional prehistoric family who must learn to evolve … or die. By Susan Bell

32 Hire Purpose
Finding USC Dornsife a destination for entrepreneurial thinking, these newest faculty members are heading in exciting and novel directions. By Pamela J. Johnson

42 The Dark of Harkness
Writing fiction gives Deborah Harkness license to explore where her inner historian would not dare to tread. By Michelle Saltzman

46 Positive Change
In a university-wide effort, USC Dornsife undergraduates teach civic engagement and entrepreneurship to elementary schoolchildren — who learn that every penny counts. By Laura Paisley

4 From the Dean
4 Life Line
What happened to the end of the world? Professor honored at White House; USC Dornsife kicks off fundraising initiative

5 SOCIAL DORNSIFE
Follow USC Dornsife Dean Steve Kay on Twitter

6 FROM THE HEART OF USC
USC Dornsife graduate debunks theory about L.A.; New center for economic and social research launched; Dinosaurs take flight

7 Curriculum
8 Archive
10 Profile
13 Lexicon
16 In the Field
18 Our World

50 DORNSIFE FAMILY
Thirteen faculty honored as AAAS fellows; Alumnus receives top science award; New USC Dornsife advancement leader

50 Legacy
51 Faculty News
52 Faculty Canon
54 Alumni News
58 Alumni Canon
62 Remembering

64 IN MY OPINION
Big City Ways

ON THE COVER
USC Dornsife students, faculty and alumni are always thinking out of the box. Illustration by John Hersey
As the keynote speakers for the HERBERT G. KLEIN LECTURE ON CIVIC AND COMMUNITY LEADERSHIP, USC Trustee David Dornsife and his wife, Dana, discuss their work to provide clean drinking water access in Africa.

A 20th-anniversary edition of USC Trustee Steven Spielberg’s acclaimed film Schindler’s List is released. His experience making the film inspired Spielberg to establish what is now the USC SHOAH FOUNDATION — THE INSTITUTE FOR VISUAL HISTORY AND EDUCATION.

USC Dornsife alumni cheer the Trojans to victory over the Arizona State Sun Devils during ALUMNI REUNION WEEKEND.

A panel of experts, including Professor of Chemistry STEPHEN BRADFORTH, discuss with alumni and supporters what solar energy means for USC, the community and individuals.

As the keynote speakers for the HERBERT G. KLEIN LECTURE ON CIVIC AND COMMUNITY LEADERSHIP, USC Trustee David Dornsife and his wife, Dana, discuss their work to provide clean drinking water access in Africa.

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This spring, students, alumni and faculty shared how they have made a difference in the areas of health, sustainability and the community as a result of their experiences at USC Dornsife. (View all of the responses at storify.com/uscdornsife/health-sustainability-community.)

I have used my training and passion for health by teaching health workshops in L.A.-area high schools, as well as working with communities in Honduras to build a clean water system and provide information about nutrition.

— Mansi Shah ’11

Thanks to Dornsife’s Student Undergraduate Research Fund (SURF), I had the ability to independently research undocumented immigration in Arizona and Mexico over the summer in order to write a book of short stories on the subject.

— Eric Weintraub ’13

USC Dornsife has taught me the skills necessary to combat global health issues by enabling me to think critically, globally, by connecting me with some of the best research professors in the world.

— Ting Lye ’13

I was a founding member of the ARC Smart program, in which USC undergraduates teach local 6th grade students about archaeology using games, technology and hands-on artifact sessions (the program is still going strong today!).

— Sarah Hawley ’10

#KoolScience

This spring, USC Dornsife Dean Steve Kay joined Twitter with the handle @DeanSteveKay. Followers can find out more about what the dean is up to, along with campus events and news. Using the #KoolScience hashtag, Kay will also be sharing media interviews about his own work on genes and circadian rhythms as well as interesting research by other experts in the sciences.

Augmented Reality

The world of letters, arts and sciences goes beyond the pages you’re holding in your hands. We invite you to use your smartphone or tablet to view inspiring multimedia content about our community of scholars.

1. Download the USC Dornsife AR (Augmented Reality) App on your smartphone or tablet via your mobile app store. The app is available for Android and iOS (iPhone/iPad).

2. Look for the Scan for Extras button throughout the magazine to find out which pages have more to discover.

3. Open the USC Dornsife AR (Augmented Reality) App, hold your phone 8–12” from the page and enjoy the videos.

No mobile device? Relax — videos are also at dornsife.usc.edu

Extras Include:

MAGNETIC ATTRACTION

Experience an fMRI scan vicariously through a study participant.

Page 26

CROOD AWAKENING

Listen to the USC Marching Band perform the opening track to the animated feature, The Croods.

Page 28

THE DARK OF HARKNESS

Watch professor Deborah Harkness read from her novel during a Visions and Voices event.

Page 42
Many dismiss the structure of Los Angeles as urban sprawl. But Samuel Krueger, a graduate of USC Dornsife’s GIST master’s program, disproves this notion by showing L.A.’s distinctive heart.

Writer Dorothy Parker once haughtily dismissed Los Angeles as “72 suburbs in search of a city.” But USC Dornsife alumnus Samuel Krueger’s research shows that the City of Angels actually does have a focal point.

Krueger set out to analyze how L.A. fares as a structurally cohesive city from a scientific point of view for his thesis in the Geographic Information Science and Technology (GIST) master’s program in USC Dornsife.

“On an emotional level, I get tired of people saying that L.A. is not a real city, so I wanted to show that it has a center just like any other city does,” Krueger said.

His thesis, “Delimiting the Postmodern Urban Center: An Analysis of Urban Amenity Clusters in Los Angeles,” found that, indeed, a strong core center runs from Santa Monica to downtown L.A. The path, which he dubs “The Wilshire/Santa Monica Corridor,” is named for the two main arteries along which the city’s center is concentrated.

Earning his bachelor’s degree in geography in 2003 and master’s in geographic information science in 2012, both from USC Dornsife, Krueger has been captivated by cities as far back as he can remember.

“I’ve always been fascinated with the way cities work — the spatial and constructed layout,” he said. “They’re made piece-by-piece by individuals making small decisions one at a time, but it ends up being this coherent unit with an identifiable structure. That’s really interesting to me.”

For his thesis, Krueger took a new approach to identifying a city’s center. Where many similar types of studies focus on employment centers or commuting patterns, he focused on the location of urban amenities in the L.A. Metropolitan area. These urban amenities fell into five categories: entertainment, full-service restaurants, hotels and motels, trendy hangouts, and high culture.

“To me, what makes a city special is the culture that’s maintained in the center of it,” Krueger said. “Each city center is unique and has a unique culture that people can recognize, and I used urban amenities as an indicator of that cultural center.”

He then mapped those amenities and used them to calculate centrality scores, a method of scoring he developed to quantify the density of amenities in clusters throughout L.A. As a control, Krueger also calculated — and validated — how his methodology applied to Chicago and New York City.

“I wanted to analyze those two cities because everyone agrees they have really strong centers,” Krueger said. “I wanted to show that this works in Chicago and New York and then apply it to L.A.”

John Wilson, director of the Spatial Sciences Institute in USC Dornsife, was a member of Krueger’s thesis committee.

“Samuel’s work demonstrates perfectly the enabling aspect of what we’re trying to do in the GIST program,” said Wilson, professor of sociology, civil and environmental engineering, computer science and architecture. “We want our students to learn the fundamental science and then the technology, which is the implementation of that science, and apply it to knowledge discovery and synthesis.”

Krueger, who now works in the Los Angeles Department of Water and Power’s water geographic information systems group, wasn’t surprised by his findings.

“To me, geography is kind of like noting the obvious and writing it down. I think we can all see the center that I identified.”

Plus, major cities like New York and Paris have their own unique definitions of cityhood, Krueger said.

“The center of Paris isn’t anything like Manhattan or Tokyo,” he said for example. “I don’t think Los Angeles has to look like Manhattan to be a real city. We have our own way of doing things.”
Can Gandalf the wizard and Frodo Baggins the hobbit really explain how balances of power serve to shift nations from cooperation to conflict?

As elf Galadriel said, “It all began with the forging of the Great Rings.”

A new book, coauthored by Patrick James analyzes the causes of war through the prism of characters and power dynamics from J.R.R. Tolkien’s popular trilogy. *The International Relations of Middle-earth: Learning From The Lord of the Rings* (University of Michigan, 2012) is based on a popular course of the same name that James designed and began teaching in 2007. The textbook is already slated for use at the University of Glasgow, Scotland, and Heidelberg College, Germany.

In the 101-level course, students view *The Lord of the Rings* movies and prequels including the newest release, *The Hobbit: An Unexpected Journey*, then draw connections between incidents in the storyline and theory surrounding real-world conflicts such as World War I and the Iraq War. “With our use of characters and storylines in the War of the Ring, you can look at the intersection points so the depth of understanding of the causes of war is at a maximum,” James said. “It serves as a bridge between things that are often just hard to compare to each other.” —L.P.
What has two large wings, a horn, an eye set in its knee and an eagle claw for a foot?

In 1512, word of a deformed mystical being rearing its ugly head quickly circulated throughout Florence, Italy. Details of the so-called Monster of Ravenna’s disfigurement spread and became more grotesque with each retelling.

Modern scientists believe that the exaggerated figure was based on a child born with an extremely rare autosomal disorder known as Roberts syndrome.

The Monster of Ravenna was included in Fortunio Liceti’s 1616 book, De Monstrorum Natura, Caussis, et Differentiis Libri Duo (On the Nature, Causes and Differences of Monsters), which detailed physical aberrations — both real and imaginary — and attempted to explain the causes for the conditions. Liceti argued that such physical abnormalities were examples of nature’s pliability and that they should be viewed with wonder instead of horror.

An oft-consulted reference source on sexuality and embryology well into the 19th century, the book remains a valuable research tool for the USC-Huntington Early Modern Studies Institute (EMSI).

“Scholars of early modern Europe often encounter images and descriptions of monsters, forcing us to ask: Did those who circulated such texts and pictures believe that these creatures were real?” said Peter Mancall, EMSI director and vice dean for the humanities in USC Dornsife, who is authoring a book on monsters.

“The more scientific among them sought explanations for these apparent aberrations and many simply accepted the existence of the monstrous — though they tended to believe that such entities could be found in proliferation only beyond the margins of Europe,” said Mancall, Andrew W. Mellon Professor of the Humanities and professor of history and anthropology. —D.K.

The Monster of Ravenna was considered by many to be an omen of God’s displeasure. Even Pope Julius II expressed concern over the creature he believed to be demonic.
Digging for Knowledge

USC Dornsife’s very own Indiana Jones, Thomas Garrison, is heading up an international team to excavate two unique Maya temples in Guatemala.

Evening falls on the ancient Maya kingdom of El Zotz deep in the dense undergrowth of the Guatemalan jungle. A dark tide of bats flows out of a large cave as the last rays of the setting sun illuminate a dramatic series of giant blood-red masks decorating an ancient temple set atop Diablo Pyramid. Beneath the 40-foot high pyramid lies a burial tomb containing the remains of a Maya king, found with a sacrificial blade lying where his right hand would have been.

Pure Indiana Jones, the archaeological dig at the recently excavated Temple of the Night Sun at El Zotz has been headed by USC Dornsife anthropologist Thomas Garrison since April 2012. Garrison began working on the El Zotz dig in 2009.

Describing El Zotz — one of the smaller Maya kingdoms — as “an archaeological gem,” Garrison said, “The most important thing that El Zotz has shown us is that size doesn’t matter. The architecture we are seeing at El Zotz is not only aesthetically beautiful, it’s also incredibly innovative in terms of its unprecedented decoration.”

The 4-foot tall, vibrantly painted stucco masks that decorate the 1,600-year-old temple depict the different faces of the Sun God. Archaeologists believe this solar imagery was designed to link the deceased ruler of El Zotz with the sun’s power, thus venerating his memory as the founder of a royal dynasty.

Accompanied by three USC Dornsife archaeology undergraduates, Garrison returned in May 2013 to lead an international team of 75 in excavating a second temple at the site.

“We are fortunate that when the Maya wanted to expand a pyramid, rather than building another one, they simply built over it, rather like Russian Matryoshka dolls,” Garrison said. “The further we tunnel in, the further back we are traveling in time.”

Garrison, who works closely with the USC Dornsife Spatial Sciences Institute, hopes that geographic information systems and remote sensing equipment will reveal details of an ancient sacred landscape and that this second excavation will shed light on a grand overall plan for art and architecture at El Zotz.

Funding for 2013 comes from The National Geographic Conservation Trust and the Foundation of Cultural and Natural Maya Patrimony in conjunction with the U.S. Department of the Interior. —S.B.

Detecting Life Beyond Earth

Led by Jan Amend of earth and biological sciences, a team of USC Dornsife researchers will study life in Earth’s subsurface biosphere with a $6 million grant from the NASA Astrobiology Institute.

A team of researchers led by Jan Amend, professor of earth sciences and biological sciences in USC Dornsife, has been selected to join the prestigious NASA Astrobiology Institute, an organization of competitively selected teams that integrate astrobiology research and training programs in concert with the national and international science communities.

As part of the institute, the team will receive a five-year, $6.7 million grant to investigate micro-organisms that live in Earth’s subsurface biosphere, the habitable area below the planet’s surface.

The team will be making inroads into a relatively new area of research.

“We don’t know what organisms are living there, how far down the biosphere extends or how active the community is that’s down there,” Amend said. “Our research is very exploratory.”

The team’s research could become a template for collecting evidence of life, or past life, on extraterrestrial planetary bodies such as Mars. This meets the mission of NASA’s astrobiology program, which seeks to understand how life begins and evolves, if there is life beyond Earth and, if so, how it can be detected. —M.S.
International relations alumna Erica Berger ’09 was named among Forbes Magazine’s “30 Under 30” people to watch.
Nothing takes the edge off a Monday morning like learning that Forbes Magazine is celebrating you as a young media maven. Although Forbes had requested alumna Erica Berger’s photograph, she didn’t yet know the elite magazine had selected her among its “30 Under 30” people to watch.

Forbes describes this exceptional group of twenty-somethings as “the young disruptors, innovators and entrepreneurs [who] are impatient to change the world. … They represent the entrepreneurial, creative and intellectual best of their generation.”

“I woke up on a Monday morning in December and had all these congratulatory tweets on my phone,” said Berger, a strikingly self-possessed 26-year-old originally from Chicago. “I thought, ‘Wait, really?’ In retrospect, I hadn’t thought the impact I was making in the media and journalism world had been that recognizable. Achieving the ‘30 Under 30’ distinction made my work a reality — probably most importantly for myself.”

Berger is director of product partnerships at Storyful, an international video and social media newswire service headquartered in Dublin, Ireland, with offices in Hong Kong and New York City, where she is based. She used the very qualities called out by Forbes to land the job.

Berger was cutting her professional teeth at The Economist, writing science and technology columns and working on research, when one of the magazine’s vice president asked her to join his effort to develop a media and innovation laboratory. Berger began by establishing a “lab room” equipped with books, Slinkies, bean bag chairs and whiteboard walls.

“The intention was to create a space that felt very safe for people to share their ideas. Everyone who worked there had great ideas, but there was nowhere they could present them and know they would actually be heard and evaluated.”

This seemingly simple idea quickly led to prototyping and launching of products. The first was an HTML5 Web application they called Electionism. It pulled in 2012 election content from Economist.com, the Economist-owned Congressional Quarterly and Twitter. A video component drew in content from Storyful.

After two years at The Economist, Berger began thinking about her next move. Job offers were filtering in from other publishers, startups, advertising agencies and even a big environmental nonprofit, but nothing felt quite right.

“I felt like I was trying to mold myself to the roles that were posted as opposed to finding a company that would build a role around what I stood for and was good at. So, I waited.”

One day Storyful CEO and founder Mark Little, with whom she had been working for a few months on the HTML5 Web application, came to her office for a meeting. As Berger was walking him out, he told her, “I follow you on Twitter. You tweet a lot about technology and social enterprise and social good and the future of journalism. … Are you looking for a job, perchance? Tell me what you want to do and let’s do it.”

Finally, inspiration hit. At Storyful since April 2012, she’s been helping big-name clients — The New York Times, The Wall Street Journal, Reuters, ABC News, Bloomberg, BBC, YouTube, Google, Microsoft and Amnesty International — feature the most relevant social media and video content.

Her content gives special focus to social good and the benefits of citizen journalism and (expertly vetted) user-generated content from the open Web.

At USC Dornsife, Berger arrived wanting to study the sciences. For years, her passion had been marine biology and while at New Trier High School in Winnetka, Ill., she traveled to California to participate in Catalina Island Marine Institute’s summer camp.

Her future changed as a sophomore when a friend recommended IR 210, an introductory course taught by Dan Lynch, associate professor of international relations. “I loved how the class applied frameworks to international negotiations and crises, wars and storytelling. It was like a scientific application of history, and I’d never really thought about it that way.

“I fell in love — it felt right to me, I could still tailor my major toward environmental issues and I could focus my case studies on environmental negotiations.”

Her coursework with Lynch and eventually with Steven Lamy, now vice dean for academic programs, energized her passion for international relations, strategy and negotiation.

When it comes to what’s next, Berger has big plans. Her roots in international relations are never far from her mind.

“Through the lens of media and journalism, I’d like to start my own company or project that combines the power of storytelling through professional outlets with some kind of tech/software that helps advance international negotiation.”

Her aim is to find solutions to world problems through storytelling and technology.

“Whether it’s related to business, international policy or environmental issues, I want to make the world better through a more deeply connected and intelligent society.” —L.P.
“We face a 21st century biodiversity crisis and the possible loss of our genetic next of kin. Allowing them to die would be like allowing your extended family to die.”

CRAIG STANFORD, professor of biological sciences and anthropology, in a Jan. 22 Inside Higher Ed audio commentary on the world’s great apes and their possible extinction, which he says could take place within our lifetime.

“Human trafficking is an extensive problem that many people talk about but they actually know very little about it.”

RHACEL SALAZAR PARREÑAS in a Feb. 3 KPCC-FM interview highlighting an international conference on human trafficking organized by USC Dornsife.

“Exposure to people with disabilities is actually quite important because the more you become exposed and see people with disabilities the more you start to process them the same as you do other people who don’t have disabilities.”

LISA AZIZ-ZADEH, assistant professor of neuroscience in the Brain and Creativity Institute, in a Jan. 25 Southern California Public Radio interview on findings from a recent study that suggests people who spend more time looking at people with disabilities are more likely to engender a better understanding of them.

FROM THE HEART OF USC

A Formula for Ambition

Arie Kapteyn was a senior economist and director of RAND Labor and Population. Newly appointed in USC Dornsife, he has founded a center for economic and social research. by Pamela J. Johnson

Although he arrived only in November 2012, Professor of Economics Arie Kapteyn has already founded a new center and is rolling up his sleeves to get it off the ground.

The Center for Economic and Social Research (CESR) will be staffed with about 25 researchers who will cover a wide spectrum of topics. Their early work will likely concentrate on health, aging and the modeling of economic behavior in the United States and throughout the globe.

The new center positions USC as the world’s leading institution for health policy research.

“The name of the center has been chosen on purpose to be broad,” said Kapteyn, center director. “We don’t want to be hampered in our choice of research topics by a narrowly chosen name. You can pronounce it Caesar if you like.”

Kapteyn arrived from the RAND Corporation, where he was a senior economist and director of RAND Labor and Population. He was also director of the Roybal Center for Financial Decisionmaking and associate director of the Financial Literacy Center, a joint center of RAND, Dartmouth College in New Hampshire and the Wharton School at the University of Pennsylvania.

Additionally, he was a professor at the Pardee RAND Graduate School and thesis adviser for approximately 25 Ph.D. students. His research expertise covers microeconomics, public finance and econometrics. The RAND Corporation is a nonprofit institution that helps improve policy and decision-making through research and analysis. Kapteyn worked at the global corporation’s headquarters in Santa Monica, Calif.

Kapteyn is a fellow of the Econometric Society, past president of the European Society for Population Economics, and corresponding member of the Royal Netherlands Academy of Arts and Sciences.

Before joining RAND, Kapteyn held a chair in econometrics at Tilburg University in the Netherlands, where he was dean of the Faculty of Economics and Business Administration. He held other posts at Tilburg, among them founder and director of CentER, a research institute and graduate school.

At RAND, he led dozens of research projects analyzing topics such as successful financial planning to comparing life satisfaction in the United States and the Netherlands.

Kapteyn said ambition drew him to USC Dornsife.

“I saw ambition at the top down from every level,” Kapteyn said. “The provost, the executive vice provost, the dean, department chairs, faculty members. Everyone had a sense that this place is really going somewhere and there is an ambition to make it work.

“Not only is it what people say, but it’s how they behave. If they say they are going to do something, they do it. This really is an environment in which I can realize my ambitions.”
**ARC**
arc (ărk) noun [From Anglo-French arc bow; From Latin arcus bow, arch, arch] 1. an unbroken part of the circumference of a circle or other curved line 2. the apparent path described above and below the horizon by a celestial body 3. a continuous progression or line of development 4. a chain of volcanoes positioned in a curved line. Volcanic arcs can be either oceanic arcs or continental arcs. a. oceanic arcs consist of islands or submarine structures formed by volcanism. These volcanic island arcs are the result of subduction of an oceanic plate beneath another oceanic plate, and are often parallel to a deep trench. b. continental arcs are arcuate-shaped mountain belts that form when an oceanic plate subducts beneath a continental plate.  
**Origin:** The term “arc” in the context of volcanoes was first used by William Lowthian Green in his 1887 book *Vestiges of the Molten Globe.*  
**Usage:** “One of the intriguing features of plate tectonics is that many active and ancient subduction zones have a pronounced arc-shaped morphology, with their topographic expressions stretching over hundreds to thousands of kilometers in length. Studying subduction — the process by which one tectonic plate moves under another tectonic plate — is essential to understanding the evolution of the planet.”

A birds-eye view of an island chain making up the Banda arc in Indonesia. Miller is leading an international research team who are studying the tectonic history of the Banda arc with support from a National Science Foundation grant.

Meghan S. Miller, assistant professor of earth sciences, studies earthquakes, tectonic processes and plate motions to reconstruct the evolution of the dynamic Earth.
Look! Up in the Sky!

The mystery of how dinosaurs first began to fly may have finally been cracked by a USC Dornsife-led team of scientists. by Susan Bell

The mystery of how dinosaurs first began to fly may have finally been cracked by a USC Dornsife-led team of scientists in a groundbreaking study.

The pioneering research by Justin T. Hall, Ph.D. student in integrated and evolutionary biology in USC Dornsife and Michael B. Habib, assistant professor in cellular and neural biology at the Keck School of Medicine of USC, solves the long-standing puzzle of how the crow-sized, four-winged dinosaur used its feathered hind legs to perform complex airborne maneuvers, allowing it to hunt prey or dodge obstacles some 130 million years ago.

“This study provides a plausible mechanism by which dinosaurs that otherwise have strongly Velociraptor-like bodies could take to the air and control themselves while in flight,” Hall said, referring to the genus of dinosaur familiar to many from *Jurassic Park*. “Obviously crashing is bad for the long-term health of the animal, but until now we had little idea how the earliest flying dinosaurs avoided such catastrophes given their rather simple wing structure.”

Hall and Habib’s research overturns previous controversial theories on how the small, meat-eating dromaeosaurid dinosaur *Microraptor gui* deployed its wings — a hotly debated topic among paleontologists for nearly a decade.

Until Hall and Habib’s study, the prevalent, albeit much-disputed, theory maintained that the forest-dwelling dinosaur glided between trees like a biplane. However, as critics pointed out, to do this the creature would have had to be a contortionist, possessing the ability to hold its hind legs out at a 90-degree angle to its body.

“The anatomical problem with the previous model is that essentially the animal was doing the splits and would have nearly had to dislocate its hips to get its legs into that position,” Hall said. “As anatomy instructors, Mike and I both knew it was physically impossible and would also have made the animal worse at flying and gliding than if it had used its front wings alone.”

Instead, Hall and Habib raised a new common sense model which keeps the legs directly under the body, consistent with all known dinosaurs, birds and the original specimen of this animal type. “What is revolutionary is that we combined our knowledge of anatomy with an understanding of the aerodynamics of how animals actually fly,” Hall said.

Their research shows *M. gui* would have been highly agile, turning twice as fast as a two-winged animal. By deploying its hind-wings it could exercise deft control over tight turns needed to dodge branches and other obstacles and hunt prey while it glided through prehistoric forests.

“For the first time, we appear to have a solid answer to the mystery of dinosaur hind-wings, as well as the function of the tail feather fan,” said Habib, who also teaches anatomy to USC Dornsife students. “In the process, we have solved a major problem in the evolution of dinosaur flight — the problem of control.”
Mutant Cells Dig in Their Heels

Using state-of-the-art tools, USC Dornsife researchers have found that some cancer cells continue to replicate even after treatment. Certain mutated cells keep trying to replicate their DNA — with disastrous results — even after medications rob them of the raw materials to do so, according to new research from USC Dornsife.

New imaging techniques allowed scientists to see for the first time that while chemotherapy drugs shut down the DNA replication process of most cancer cells, so-called “checkpoint mutants” just keep chugging along, unwinding the DNA and creating damaged DNA strands that can result in the kind of abnormalities seen in cancer cells.

“Older methods suggested that these checkpoint mutants stopped replicating and that the replication machinery simply fell apart to cause DNA damage,” said Susan Forsburg, professor of molecular biology in USC Dornsife. “Our new technique suggests that replication processes continue and actively contribute to the damage.”

Forsburg is the corresponding author on a paper about the discovery that was published online in Molecular and Cellular Biology in October 2012. She collaborated with lead author Sarah Sabatinos, a postdoctoral molecular biology research associate and Marc Green, a research technician.

“We predict that this is a source of increased cancer risk in human cells that harbor checkpoint mutations,” Sabatinos said. The next step will be to determine what happens to the small fraction of mutant cells that survive this treatment. —R.P.
PERFUME MADE VISIBLE
Distilled modern perfumes are mostly invisible, their visual appeal limited to the design of bottles and packaging. Although bottled perfumes existed in pre-modern India, garlands of fresh flowers and expensive aromatic pastes made from exotic materials from distant lands were highly valued for their colors and thus their decorative value.

“People would smear these thick pastes on their bodies like a cosmetic so even if you couldn’t get close to a wealthy person to smell their costly perfumes, you could see they were wearing them from a distance,” said James McHugh, professor of religion and author of Sandalwood and Carrion: Smell in Indian Religion and Culture (Oxford University Press, 2012).

ORIGINS
“During the premodern period, India was the hub of the aromatic world,” McHugh said. Not only did the country produce many of its own basic ingredients, including sandalwood, saffron, cardamom and guggulu (myrrh), it was also at the crossroads of the international trade in rare and exotic aromatics. These were used to make costly perfumes, with cloves and nutmeg from Indonesia and camphor from Borneo and Sumatra in southeast Asia, frankincense from Yemen and Oman, myrrh from the Persian Gulf and musk from Tibet, Nepal and China via the Silk Route to the north.

43,680

POTENTIAL PERFUMES
Citing probably the earliest major text on perfumery, which is contained in Varāhamihira’s The Great Compendium or Brhañjamhītā, McHugh shows how ingredients for perfume formulae are placed in a grid from which numerous combinations can be derived, with the possibility of creating a vast number of different scents. Varāhamihira also provided a complex algorithm to calculate how many perfumes can be created from a given number of ingredients — up to 43,680 in one case.

In one formula which takes the form of a pandiagonal magic square, aromatics are placed in cells of the grid in proportions such that, when combining any four ingredients in a row (including the diagonals, hence “pandiagonal”), they always produce 18 parts of the desired aromatic mixture. The quantities in the grid range from one part to eight parts.

Stealing Others’ Wealth
→ thief (= kacora/cora)
→ zedoary (= kacora)

RIDDLES, PUNS AND RECIPES
Later perfumery texts also included sophisticated word puzzles. Some perfume formulae took the form of clever riddles peppered with often risqué puns. Thus a seemingly innocent list of ingredients for incense — cloves, fragrant shell operculum, zedoary, costus root, spikenard, the incense named Fracas — has a double meaning and can be translated as a moral aphorism: “Decoration is the shame of a respectable woman, stealing others’ wealth is produced from evil, incense is not right in the doctrine of the Jina, indeed it is a fracas.”

“I suggest that pleasures of perfume were not entirely olfactory,” McHugh said, “but also included the clever delights of combinatorics and word games. It seems more than likely that manipulating the clever features of these formulae also constituted a pastime for the highly educated.”
**Chicken Necks and Chili Queens**

In a course taught by Sarah Portnoy, students learn Spanish via the lens of L.A.’s food truck revolution — including a gastronomic tour through the Boyle Heights neighborhood of East Los Angeles.

USC Dornsife Spanish major Daniel Arellano picks morsels of sizzling meat from the delicate bones of a fried chicken neck and stuffs them into a warm tortilla, garnishing the resulting taco with freshly chopped onion and cilantro and spicy red salsa.

Clearly savoring the moment, he takes a large bite.

Nearby, several of his classmates observe his culinary daring with expressions ranging from anxiety to admiration. A short distance away, the rest of the class is eagerly lining up with expressions ranging from anxiety to admiration. A short distance away, the rest of the class is eagerly lining up outside an unpretentious food truck emblazoned with the words Santa Rita, Jalisco, Pescadores de Pollo. USC Dornsife’s Sarah Portnoy, a lecturer in Spanish and Portuguese, has brought her students here to sample the chicken neck tacos. This was undoubtedly the most unusual — and for some, the most challenging — recipe students encountered on their gastronomic tour through the Boyle Heights neighborhood of East Los Angeles as part of Portnoy’s Spanish language class “The Culture of Food in Hispanic Los Angeles.”

This dynamic, interactive course teaches students to develop their oral and written Spanish language skills in authentic settings by exploring L.A.’s diverse neighborhoods via food trucks, markets, restaurants, street vendors and community gardens. Students then document and analyze their experiences and interviews in blogs and short videos that are written and presented in Spanish and posted online at losangelesculinaryculture.wordpress.com.

Portnoy expects students to pay close attention to the city’s food trucks and with good reason. In recent years, L.A.’s burgeoning food truck scene evolved into a phenomenon that has come to define the city’s gastronomic landscape.

When Portnoy first came up with the idea to teach language through food culture, she knew she had hit on a winning combination. Now in its third semester, her class has proved to be hugely popular.

“The class isn’t just about food, but the whole community that forms and supports that culinary culture,” said Portnoy, who encourages students to step outside their comfort zones and broaden their horizons. “We consider ourselves culinary anthropologists.” — S.B.

**Archives Go Digital**

Nearly 52,000 video interviews have been archived digitally.

The USC Shoah Foundation — The Institute for Visual History and Education has completed a multiyear, multimillion-dollar project to digitally preserve the video interviews in its visual history archive. The archive contains testimony from nearly 52,000 Holocaust survivors and other witnesses.

“The completion of this effort is one of the most significant milestones in our 18-year history,” said USC Shoah Foundation Executive Director Stephen D. Smith. “It helps guarantee that survivors’ voices will be heard, that their faces will be seen, and that their memories will endure for generations to come.”

The institute recorded the testimonies on 235,005 Betacam SP videotapes between 1994 and 1999. All physical media storage formats experience data rot at some point in time; conservative estimates give shelf lives of 50 years for film, 20 years for videotape, and five years for hard drives before visual content shows signs of age-related damage. In 2008, with funding from Oracle and the USC Office of the Provost, the institute began processing the tapes to generate copies in a digital format called Motion JPEG 2000, which captures the picture and sound quality of the master recordings.

In addition to generating Motion JPEG 2000 duplicates of the testimonies for preservation, the institute generated other copies in commonly used formats such as MPEG, Quick-Time, Flash and Windows Media Player so that more people can access the visual history archive.
The Silk Road Today

History majors travel to Kazakhstan to research the building of national identity.

Although it is larger than all of Western Europe, Kazakhstan remained virtually unknown to much of the world for the first 15 years of its newfound independence following the collapse of the Soviet Union in 1991. That was until British comedian Sacha Baron Cohen decided to exploit that ignorance to create his satirical mockumentary *Borat: Cultural Learnings of America to Make Benefit Glorious Nation of Kazakhstan*.

When the irreverent film hit movie screens in 2006, its success put the former Soviet state firmly on the map, but at what cost to its national identity?

Students in the Problems Without Passports course “The Silk Road Today: Focus on Kazakhstan” examined the country’s multiethnic and multicultural society, which presents its people and government with significant challenges in creating and maintaining a harmonious balance between a national Kazakhstani identity and ethnic identities. Some of the students’ research projects focused on issues such as identity construction, cultural retrieval and the political and economic challenges of nation building.

“These projects helped students not only to discover a new culture, a new landscape, but also in sharpening their critical-thinking skills and enhancing their abilities to use the same kind of skills in addressing the problems and issues they will be facing,” said Azade-Ayse Rorlich, professor of history and Slavic languages and literatures.

In September 2012, Ph.D. student Maureen McCarthy traveled from Los Angeles to Hoima, Uganda, to begin a year devoted to collecting chimpanzee poop. While that may seem like an unusual way to spend a year, McCarthy is building a specimen collection that will form the foundation for new research on the endangered primates.

A doctoral student in the Integrative and Evolutionary Biology graduate program, McCarthy hopes to help unlock urgent mysteries about how chimpanzees cope with their dwindling habitat. She is tracking genetic patterns within and between the scattered forest fragments that these chimps now call home. Collecting stool samples and later analyzing their DNA to match the samples with particular chimps will enable McCarthy to determine how chimps migrate through forest fragments and, more importantly, whether they migrate between them at all.

“I’m excited to test hypotheses that will help us better understand the lives of chimpanzees in fragmented forests, and to find solutions that will aid their conservation,” she said.

McCarthy’s year in Uganda will be followed by a year at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, where she will process her samples.
This street art near Callejón de Hamel in Havana is part of the “Wrinkles in Time” project from the photographer and street artist known as JR. The project features images of elders from the region.

From the Heart of USC

This street art near Callejón de Hamel in Havana is part of the “Wrinkles in Time” project from the photographer and street artist known as JR. The project features images of elders from the region.

In a joint effort between USC Dornsife and the USC Annenberg School for Communication and Journalism, 20 USC students traveled to Havana, Cuba, to study the island’s political, economic and social conditions.

Led by Pamela Starr of USC Dornsife’s School of International Relations, and USC Annenberg professor Roberto Suro, the course began with two weeks of classroom sessions at USC, where students were given an overview of the history of Cuba and its relations with the United States. The group then traveled to Washington, D.C., where students met with senior government and political think tank officials. From the nation’s capital, the group flew to Miami for meetings with anti-Castro groups and departed for Cuba the following day.

While in Cuba, students attended lectures at the University of Havana followed by culturally immersive excursions throughout the city. Students spoke with officials from the National Center for Sexual Education and witnessing the convergence of capitalism and communism through a tour of the city’s food markets.

Students Brazil

Michael Morando, a doctoral candidate in the Marine Environmental Biology program, took a rare research trip to the Amazon River in Brazil to study how nutrients and organisms in the river influence the ocean.

Where the milky, brown water of the Amazon plunges into the Atlantic Ocean, two very different ecosystems converge: The river’s fresh waters, high in nutrients and organisms, mix with the salty ocean, relatively low in marine life. This convergence, called the Amazon River plume, extends off Brazil’s coast for more than 100 miles.

Morando sailed to the mouth of the Amazon while gathering samples along the research vessel’s course. He is investigating how different organisms fix nitrogen — a process that converts nitrogen gas into ammonium, a chemical that is playing an important role in the metabolic process.

By studying nitrogen cycling, Morando is learning the dynamics of the environment, how susceptible it is to change and how much potential it has to grow.

“If you have an idea of what’s happening with nitrogen,” Morando said, “you can use that to figure out what’s happening with carbon and you can link that back to problems like climate change.”

Alumni India, Honduras, Mali

When she’s not appearing in films or on television, Emmy Award-winning actress America Ferrera is a passionate social activist.

Recently, Ferrera, who earned her B.A. in international relations in 2013, traveled to Honduras with the grassroots advocacy organization ONE, cofounded by U2’s Bono. She listened and learned about the ways women in the country are working to improve their lives and communities. ONE, in turn, inspires people to take action by relaying these stories.

Some of the women Ferrera met were mothers participating in programs showing them how to provide better nutrition to their children. Others Ferrera met with sought to increase economic opportunity for women farmers.

“I was interested in the ONE campaign because they are about leveraging your voice, not your money,” Ferrera said in an interview with CNN. She spoke about seeing firsthand how investing in women and girls can change a community. “Giving mothers the tools to fortify tortillas with better vitamins made the children’s development stronger,” she said. “Giving women the tools to farm new crops helped their land — it helped their boys and their girls.”

Ferrera also teamed with New York Times columnist Nicholas Kristof to shed light on human trafficking in India as part of the PBS documentary series Half the Sky. In the documentary, Ferrera accompanies Kristof through the gritty red-light districts of Kolkata, allowing the audience to learn about intergenerational prostitution.

Ferrera, who has been active in the Joint Educational Project and the Teaching International Relations Program, both housed in USC Dornsife, also partnered with independent organization Save the Children in 2010. She traveled to the village of Diassadeni, Mali, to help the organization raise funds to build a school.

On her work in Honduras, Ferrera reflected: “It wasn’t just helping the women and the girls, it was lifting up their entire community.”

Faculty and Students Cuba

Contradicting Cuba

In a Problems Without Passports course, USC students find Cuba to be a country of contradictions.

In a joint effort between USC Dornsife and the USC Annenberg School for Communication and Journalism, 20 USC students traveled to Havana, Cuba, to study the island’s political, economic and social conditions.

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This street art near Callejón de Hamel in Havana is part of the “Wrinkles in Time” project from the photographer and street artist known as JR. The project features images of elders from the region.
What if the components of architecture — walls, windows, ceilings and everything in-between — were used to construct the human mind?

How might the physical space integrate the mind’s two perspectives: the logical, analytical, objective left brain and the intuitive, holistic, emotional right brain?

Enter the 20,000-square-foot, three-story Dornsife Neuroscience Pavilion, which opened November 2012. It encompasses the Dornsife Neuroimaging Center and the Brain and Creativity Institute (BCI), with its Joyce J. Cammilleri Hall.

Walk in and your eyes follow the stark white diagonal walls way up to the atrium windows shining down bright sunlight. Immediately, there’s a feeling of something significant happening inside.

To the left — or south — you will find a world-class auditorium designed by Yasuhisa Toyota, the acoustician also responsible for the concert hall portion at Walt Disney Concert Hall and the New World Center, among other top performance spaces around the globe.

This is where musical performances, theatre, poetry readings and lectures take place.

Directly across to the right — or north — are the modern ways of investigating the human brain in operation: a 3-tesla magnetic resonance scanner and a laboratory of electroencephalography (EEG).

“So you have these two giant creatures opposite each other — the brain scanning devices on one side,” said University Professor Antonio Damasio, BCI director. “Then on the other, you have the traditional way of investigating human mind and behavior that goes all the way back to the Greeks: an amphitheater where you can hear a human being reciting poetry or playing music or reflecting on the state of humankind in a lecture.

“All of these endeavors are possible under one roof.”

In recent years, neuroscience at all levels has developed enormously.

In particular, the level of the mind concerned with higher behavior, the higher mind, has been significantly strengthened, Damasio said. “As a result, we have become, for the first time, able to join the world of investigating human behavior and human mind, which has been traditionally carried out through the arts and humanities.”

Arts and sciences speak to one another, he said.

“We built it this way to make people go back and forth across these worlds,” said Damasio, David Dornsife Chair in Neuroscience and professor of psychology and neurology, “and to allow students and young investigators to see quite clearly how these worlds naturally interconnect with each other. How the world of, say, theatre or music is not separate from the world of science. And vice versa.”

Damasio and his wife, University Professor Hanna Damasio, BCI codirector, said calling the building the Brain and Creativity Institute brings to the fore the fact that the brain research conducted under its roof is fused with the realm of arts and creation.

The Damasios founded the BCI in 2006. The lead gift for the expanded building came from longtime university supporters Dana Dornsife and USC Trustee David Dornsife. Both sit on the BCI Board of Directors, which David Dornsife chairs. The Los Angeles-based architectural firm Perkins+Will fashioned the new BCI out of space between existing structures.

“Creativity is a very distinctive human ability,” Antonio Damasio said. “Human beings are creative and that’s one feature that makes them special. The idea was to have a building that would manifest very clearly these two strands of inquiry. The one that has to do with science and the traditional one that has to do with philosophy or the arts.”
MUSICAL BRAIN
One new study taking place at the BCI is connected to the arts. It seeks to understand what happens to the brains of young children learning music using the El Sistema method — sometimes referred to as “passion first, refinement second.” Developed in Venezuela, the method teaches children with few resources to overcome adversity by first strengthening their spirit through music.

Led by Antonio and Hanna Damasio, Dana Dornsife Chair in Neuroscience and professor of psychology and neurology, and neuroscientist Assal Habibi, herself a classical pianist, researchers are following children for five consecutive years from the start of their musical education, using standard psychological assessments and advanced brain imaging to track their brain, emotional and social developments. An expert on musical education from the USC Thornton School of Music, Beatriz Illari completes the research team, which includes several graduate students of music and neuroscience.

The team is collaborating with the Los Angeles Philharmonic Association and the Heart of Los Angeles (HOLA) on the project that will offer new insights and data about the role of early music engagement in learning and brain function. Study advisers include American cellist and virtuoso Yo-Yo Ma, a member of the BCI board; the renowned conductor and pianist Daniel Barenboim; and USC Thornton’s Midori Gotô, a USC Distinguished Professor and the Jasha Heifetz Professor of Strings.

“We should not be studying music without musicians,” Antonio Damasio said, “and we treasure the advice we get from these giants of music.”

CLAIRVOYANT COMPUTERS?
On the pavilion’s first floor, Jonas Kaplan, research assistant professor of psychology, is among the BCI researchers who use the functional magnetic resonance imaging (fMRI) scanner to study the human mind.

In the past, scientists at the BCI have programmed computers to predict what a person is seeing, hearing or simply touching. They discovered that as you look at an object, your brain not only processes what the object looks like, but remembers what it feels like to touch. A computer examining activity from the part of the brain processing touch could predict the object participants were looking at and holding — a fluffy sponge, a ball of yarn, a light bulb.

“We’re now actually moving beyond just looking at stimuli, hearing and touching things, into the realm of imagination,” Kaplan said.

In the experiments, participants inside the scanner watch silent videos, of say, a rooster crowing.

“They don’t hear anything,” he said. “But when they see the video they have an imaginative experience. They hear the sound of crowing in their mind’s ear going along with the video.”

Or they watch someone playing the piano or a glass shattering or coins falling onto the floor — all with no sound. By analyzing the patterns that are evoked in the auditory parts of the brain, the computer can determine what sound the person was imagining in that circumstance and which video they were watching.

This brings scientists closer to knowing where sight, sound and touch come together or are synthesized in the brain.

“Some parts of the brain appear to integrate sound and touch,” Kaplan said. “And there are other parts that integrate touch and vision. And there may be parts that integrate all three. We want to map out these systems.”

They are also looking at where the sources of imagination are in the brain.

“Using the patterns of activity in those parts of the brain, we were able to determine what people were imagining, which then gives us evidence that this part of the brain is involved in imagining, the contents of imagination.”

The Zen-like feeling of the new pavilion follows the researchers as they walk up stairs. They pass walls where the works of contemporary artists are displayed and dispersed between offices in spaces for interaction or quiet reflection. Most of the offices have open ceilings and glass walls. The openness creates a sense of community and promotes collaboration.

Always, what strikes you most is the brightness from the windows of the atrium, positioned in the center so that the light emanates outward like a star.

“The building is fundamentally designed to support our intellectual endeavors,” said Mary Helen Immordino-Yang, assistant professor of education, psychology and neuroscience. “So as you walk into the building, unlike most traditional office spaces, you experience a confluence of arts and science.”

Immordino-Yang is perfecting her research on human experience to an art form. In one recent cross-cultural study, she shed light on how individuals feel and show emotions.

STILL WATERS
In extensive studies, Immordino-Yang presented participants with stories about compassion and inspiration inducing, real-world events — such as the story of Malala Yousafzai, the Pakistani teenager who was shot in the head and neck while returning home on a schoolbus. The Taliban wanted to punish Yousafzai for being a girl seeking an education. As Immordino-Yang’s team related Yousafzai’s story to each participant, the researchers studied the participants’ natural behavior — for instance, were they waving their hands or unexpressive while discussing Yousafzai’s miraculous recovery and heroic activism?

Immordino-Yang compared those interviews with the neurobiological correlates in the same participants. At the BCI’s fMRI scanner, she recorded their neural activity while they reviewed the same stories. As the participants reacted to the stories while inside the scanner, they indicated their range of feeling, from weak to being emotionally overwhelmed.

She found that the brain activity underlying emotional feelings differed depending on how expressive a person was in the interview, although everyone in the experiment, expressive or not, reported feeling strong emotions.

“The people who were weeping and grabbing tissues and openly expressive did not report that they felt more strongly
“People learn from their culture how to experience their own emotions; they learn how to conceptualize their feelings.”

than the people who were sitting there calmly deliberating on what the story meant to them and how they felt about it,” Immordino-Yang said.

“There were also no differences in the magnitude of the signal in the anterior insula — a brain region that’s important for the experience of emotional states or for feeling. There were no differences in the magnitude of the BOLD (blood oxygen level-dependent) signal there.”

However, more expressive people showed a tighter correlation between brain activity in the anterior insula and the strength of the feeling they reported. In other words, individuals’ behavior predicted the way in which their anterior insula supported feelings, even though more expressive people did not report feeling more strongly and did not show bigger neural responses.

When participants said they felt strongly and were also emotional, those two events were moving together to create a more tightly correlated pattern.

Conversely, those who expressed their emotion more calmly but said they felt strongly showed a looser correlation between how they felt and their brain activity in the anterior insula.

“What we think is going on is that people learn from their culture how to experience their own emotions; they learn how to conceptualize their feelings,” Immordino-Yang said. “Expressiveness seems to be shaped by your own culture and by your own biology, acting additively.”

Shaping your behavior over time may indirectly teach you how much attention you should pay to your body’s reaction to know how you feel, she said, and future experiments are set to test this interpretation.

“So if you’re a person like me who’s super Italian-like and waving my arms around and crying and doing all these things — when I want to know, how do I feel about that young woman who fought the Taliban? — I may be more likely to pay attention to my own bodily response,” Immordino-Yang said. “I might think to myself, ‘Well, my heart’s pounding, my throat is dry, so I must be really upset about this.’ ”

“Whereas I think if you’re a person who’s been taught over time not to show a big bodily response then you would be attending to something else in order to decide. When you’re expressive, there are more prominent cues from your body to tell you, ‘Wow, I really am feeling emotional.’ But when you’re less expressive, the cues may be subtler.

“So, your culture appears to shift the way in which your emotions result in body reactions, which in turn may shape how emotions are experienced. Cultural shaping of behavior may actually change the experience of emotions — not the strength of feelings, but potentially the process by which individuals become aware of and evaluate their feelings.”

SPIRITUAL SCIENCE

John Monterosso, associate professor of psychology at the BCI, is an expert on decision-making, impulsivity and self-control. He’s interested in this key step in Alcoholics Anonymous (AA) and other 12-step programs: recognizing a higher power that can give strength.

“If you ask people who overcome addictions in the 12-step approach, if you ask them what they think happened, many feel very sure that personally for them, spirituality was critical,” Monterosso said. “It’s sometimes explicitly religious, but it isn’t always. It is sometimes a very vague
sense of spirituality."

For example, recovering addicts in AA believe in a connection to something larger, or nature, or the circle of life, he said. Social scientists can’t assume they are right; the addicts who say a belief in a higher power helped them recover may be flat wrong.

“But it seems a greater possibility given the amount of time and attention from people who spend their lives thinking about this, that these psychological experiences are important for overcoming the addiction,” he said.

“As you become addicted you lose connection with other things in your world. Everything begins to fall away, relationships suffer. Eventually work suffers. Life becomes more concrete and specific around the substance.”

People in the 12-step community often say that even before their breakdown of connections to larger things, some kind of lacking in their life was the starting point. A feeling of disconnection was often key to their problem.

The recovery process is often considered related to reconnecting, or for the first time connecting, to some kind of spiritual perspective.

“OK, so I’m a psychologist,” Monterosso said. “We want to think about that in psychological terms. What is their experience psychologically? There’s a ton of research, mainly questionnaires, about people’s spirituality. But there’s little so far that can give us a handle on what these spiritual experiences are about emotionally and physiologically.”

Through interviews coupled with tests on the participants’ brains in the BCI’s fMRI scanner, Monterosso hopes to discover how these spiritual experiences shift people’s behaviors.

“How do they go from a place where they’re responding to only immediate gratification to seeing things more globally, or responding to bigger themes, to bigger considerations?”

Still in the planning stages, the study involves Homeless Health Care Los Angeles’ needle exchange program. STORY CONTINUES ON PAGE 27.
Weighing several tons, the magnet is as tall as a two-story building and 8-feet in diameter. A list of what not to bring or do near the apparatus warns against metal items. "Bear in mind, this magnet is always on," reads a sign on the door to the BCI's 3 tesla scanner available for clinical use today. Compare 3 tesla with magnetic fields used in MRI but still allow her to hear instructions from researchers. "We're really utilizing the differences between individuals to get at the brain's neural response," says Gimbel; Tipper; BCI researcher Andrew Gordon and others from the USC Institute for Creative Technologies.

"I have a belt," Driscoll realizes. "Let's go ahead and take that off," Gimbel says. "OK, perfect." Gimbel adds, "We can't scan you if you have a belt." Driscoll removes her belt. "I have some clips in my hair," Driscoll says. "Be careful to remove your glasses, hairpins or anything that can be pulled out of your pocket or hair," Gimbel says. "We give the person who's under scanning a writer's strike." 

"Excellent," Gimbel says. "This is going to be the very last round of stories." Driscoll is asked whether she thinks the big-money writers would have crossed the picket line. The writer did or didn’t because she thought of the bigger picture. After reading the narratives, the researchers will compare her brain activity while each issue was discussed with her written responses to see how they match up.

"Let's begin," Gimbel says. "We're getting a handle on how the brain is engaged in processing these stories. We're getting a handle on how the brain is processing these stories," says Gimbel. "We're getting a handle on how the brain is engaged in processing the stories. We're getting a handle on how the brain is engaged in processing the stories. The researchers will compare her brain activity while each issue was discussed with her written responses to see how they match up.

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Located in the downtown Skid Row area, the program is meant to decrease the number of drug users sharing contaminated syringes. Monterosso is planning with the L.A. organization to test participants who can help shed light on how their behavior and physiology changes when hearing compelling stories that may bring out a feeling of spirituality.

“We’re hoping to get some idea about how complex emotions related to spirituality are relevant in self-control and recovery from addiction.”

DO ME A KINDNESS

For the past three decades, researchers studying gratitude believed the emotion was a result of two catalysts: 1) a gift was given at great effort by the giver and 2) the gift fulfilled a serious need for the recipient.

Not so, said Glenn Fox, a Ph.D. candidate in neuroscience at the BCI. While gifts that come at great effort and fulfill a serious need are indeed capable of eliciting high levels of gratitude, one or the other is enough, Fox found.

“High effort or high need alone is sufficient for high gratitude.”

In his research, Fox is relying on the USC Shoah Foundation — The Institute for Visual History and Education and its archive of videotaped testimonies of survivors and other witnesses of the Holocaust.

Fox and his team spent hundreds of hours watching and listening to many of the archive’s more than 52,000 testimonials. They collected scenarios in which a survivor receives some sort of gift. A gift of peanuts to a starving survivor allergic to peanuts might elicit mixed feelings. Other gifts — for example when a prisoner whispers "stay left" to someone exiting a train at Auschwitz, saving his life when all those on the right are sent to a gas chamber — would certainly bring out deep gratitude.

In Fox’s study, participants were asked to take the perspective of the survivor and read about his or her personal experiences while connected to a brain scanner. Participants also filled out questionnaires describing their emotions.

“Our preliminary data shows that gifts eliciting near unspeakable gratitude — for example, being given shelter and food when there is a great personal risk to the giver for doing so — activate brain regions associated with happiness, social bonding and joy,” Fox said.

In the preliminary findings, Fox has discovered that a gift drawing the greatest amount of gratitude is one that helps restore the recipient’s dignity. Using real scenarios from the USC Shoah Foundation, the opportunity to speak one’s own language meant a great deal to survivors taken out of their country.

“If they were taken from France to a concentration camp in Austria, for instance, being able to speak French was really a welcome experience,” Fox said, “even though it didn’t necessarily feed them. Just being able to speak in one’s own language was dignity-restoring and the recipients were grateful for it.”

Fox’s studies indicate that gratitude lives at the center of good human conduct and serves as a fulcrum by which people seek to do right by others. When one is the beneficiary of good human conduct, one experiences a concert of positive emotions ranging from relief to elation, Fox said. These emotions can in turn motivate people to expend great sums of energy to reward those near the source of the good conduct, creating, literally, a virtuous cycle.

“There is something very real about the phrase, ‘pay it forward,’ ” Fox said. “Gratitude is a powerful emotion.”

NO SMELL WONDER

Neuroscience Ph.D. student Kingson Man was inspired by Antonio Damasio’s The Feeling of What Happens: Body and Emotion in the Making of Consciousness (Houghton Mifflin Harcourt, 1999) when he read the book as a high school student in New York City. He chose USC Dornsife specifically to work with the Damasio at the BCI.

Man is interested in how the human senses of sound, sight, touch, smell and taste are merged together. The societal impact of his research could benefit people with brain damage, including semantic dementia, which inhibits one’s ability to distinguish the difference among objects.

“They can’t tell the difference between apples or oranges or, say, different tools,” Man said. “They don’t know how to use a wrench versus a screwdriver anymore. They’ve lost that conception and knowledge.”

Man is investigating how conceptual knowledge is organized and how people might be rehabilitated when they’ve lost that capacity.

“I think a promising strategy is to use yet another sense to try to learn new associations,” he said. “So if you’re trying to tell the difference between a wrench and a screwdriver by looking and touching, what could you do? You could try to recruit a third sense. So these are very manual objects.

“Maybe, to be far-fetched, you could paint a different scent onto each tool. Then you learn that the association of strawberries means wrenches, which are for doing a certain thing. If you just smell it, then you can activate it and you can reach that knowledge through a different route.”

Not far-fetched at the BCI. Researchers under its roof know something is happening here. These scientists are beyond teetering at the cusp.

"Intelect and emotions are not separate," Immordino-Yang said. “They’re completely feeding off one another and integrated to each other. It’s the ideas themselves that are inspirational to me — and the dynamic culture created here of intellectual exchange and debate.”

The researchers are all, individually and collectively, following the light.
In The Croods, the new box-office hit from DreamWorks Animation, Kirk DeMicco ’91 has created an endearingly dysfunctional prehistoric family who must learn to evolve ... or die.

By Susan Bell

As the drum rhythm and stirring horns build in intensity, the high adrenaline chase gathers momentum as the Crood family hunts down and steals a giant, blue-and-orange-speckled egg from a rama — a hybrid of ram and emu with the strength and rushing power of a linebacker.

You know a Trojan is at the helm of this new, animated 3-D comedy adventure, The Croods, when you learn the drumming and horns were provided by the USC marching band.

In the opening scene, parents Grug and Ugga, rebellious teenage daughter, Eep, dutiful but dim-witted son, Thunk, ferocious baby girl, Sandy, and ancient but indomitable grandmother, “Gran,” are attempting to bring home their prehistoric breakfast.

The family members pass the fragile egg back and forth among them like a football in a succession of breathtaking maneuvers as they tackle, scramble and block a variety of strange, ferocious or mischievous beasts, all intent on capturing their own breakfast.

The Croods are definitely not at the top of this particular food chain.

“It’s so rare that you get the chance to do that,” the film’s director and writer, Kirk DeMicco, said with obvious relish. “It’s so fun watching a family working together, struggling, playing this full contact sport, just to get breakfast. It’s like a Saturday football game, and it just keeps on going. It’s choreographed and there’s character, character, character and it’s telling you about their world. That’s something we can do very well with animation.”

Billed as “the world’s first-ever family road trip,” The Croods, DeMicco said, was inspired by comedies such as the 1983 Chevy Chase hit, National Lampoon’s Vacation, the sweeping landscapes of a number of westerns, and John Ford’s 1940 epic drama, The Grapes of Wrath.

“That was the Dust Bowl and these are cavemen,” DeMicco said of his film’s similarities with the Depression-era film based on John Steinbeck’s classic novel. “But the Croods are a very poor family. They've lost their home and they’re looking for a promised land. It’s the myth of going West, going toward the sun and reaching into new frontiers.”

Setting the movie in an imaginary period dubbed the “Croodacious Era” gave the film-makers creative freedom to invent stunning landscapes and a menagerie of fantastically comical and frightening creatures. The macawinivore has the body of a sabre-tooth tiger, an over-sized head and the coloring of a macaw. The mousphant is a tiny elephant with the ears and tail of a mouse. And terrifying flocks of swarming piranhakeets — a cross between a parakeet and a piranha — swoop down to devour any creature in their path.

The film’s prehistoric setting also served as an interesting philosophical device because
said. “We would say they had ‘beginners’ minds.’ That allows them to see things anew, and that is the fresh, engaging part of the film, seeing all the wonder of the world through their eyes.”

The road-trip theme brings back memories of a comparative literature course on Western civilization DeMicco took from then-USC professor Nancy Vickers more than two decades ago.

“That class was great because it was all about journeys. We watched *Apocalypse Now* then read *Dante’s Inferno*; the great epic poems, *The Iliad*, *The Odyssey*, then saw movies with the same structure.”

Familiarizing himself with concepts such as Joseph Campbell’s monomyth and learning about the shared structure that runs through all great literature was invaluable in shaping DeMicco’s storytelling skills. “I realized there are steps that happen. That was eye-opening.”

These lessons helped pave the way for the writing and structuring of *The Croods*. “Our movie is a journey film,” DeMicco said. “The steps are the resurrection, crossing the first threshold, the journey into the new world.”

The movie begins by showing the strained relationship between Grug (voiced by Nicholas Cage), the archetypal over-protective father whose mission in life is to keep his family safe by any means necessary, and Eep (voiced by Emma Stone), Grug’s rebellious teenage daughter who feels trapped inside the family cave. Then along comes Guy (voiced by Ryan Reynolds), a handsome young caveman graced with a superior intellect. Guy’s innovative ideas pique Eep’s curiosity, but challenge Grug’s traditional ways.

By swapping a fear of technology, which had been the creators’ original focus of the story, for a more universal fear — the fear of change — the writers hit upon a way to transcend cultural and generational barriers.

“You can understand the fear of technology intellectually, but no one really believes it. Everyone seems to love their iPhones, so it’s kind of a false argument. But no father in — as DeMicco and co-director and writer Chris Sanders quickly realized — once the external trappings, obligations and rules of modern society are stripped away, the characters have nothing left to talk about but life’s big questions.

“When that became clear,” DeMicco said, “we realized this movie can speak to an audience on a far deeper emotional level than we had first anticipated.”

During the film’s opening titles, a single glowing ember drifts out from the screen, appearing to hover tantalizingly in mid-air, so close and so real you feel that if you reached out and touched it, it might burn your fingers. It foreshadows the prehistoric heroes’ introduction to fire (“Try hiding from it in the tall, dry grass,” Grug advises Thunk with predictably disastrous results), but it is also a reference to the spark of imagination that illuminates this whole film. While *The Croods* is about family and overcoming fear of change, it is also about creativity, and how if we trust and use it wisely we can shape our destiny and better our world.

“Creativity definitely takes work,” DeMicco said. He reserves mornings for “the carpentry” of writing, in which he frames his ideas. “In the mornings I am a lot clearer and I can build on my thoughts. But the actual thinking comes at other times. It’s like people say, ‘It comes to you in the shower.’ ”

If he gets stuck, DeMicco goes for a walk.

“If you just sit there and try to drum up a solution, you’ll probably come up with an answer,” he said. “But it’s probably going to be the logical answer that everyone else would come up with. The gap in the logic is where the comedy comes from — the surprise.”

The resulting movie opened to a box office win. Part of the universal appeal of the Croods, whom DeMicco has described as “timelessly dysfunctional,” is that they exhibit many of the same struggles and triumphs of a modern-day family. At the same time, they are on a perpetual voyage of discovery, as they realize if they don’t evolve … they’re history.

“We never referred to the Croods as stupid,” DeMicco said. “We would say they had ‘beginners’ minds.’ That allows them to see things anew, and that is the fresh, engaging part of the film, seeing all the wonder of the world through their eyes.”

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In the movie’s most dramatic scene, Grug has to literally throw what he values most — his family — into the unknown, and simply trust. By making that leap of faith, he embraces optimism and hope. And his mantra finally changes to reflect that personal transformation.

“That’s what I’m working toward,” said DeMicco of his pessimistic alter ego’s cosmic shift in outlook. “Making this movie has been a long therapy session for me.” It’s said lightly, with a laugh, but there is clearly more than a grain of truth in his words.

“You have to believe there is an answer and the solution is out there and be patient,” he said. “You have to be optimistic to be creative.”

Since then, DeMicco has worked with some of his childhood heroes and adapted his favorite works to film. In addition to collaborating with Cleese on an adaptation of Dahl’s novel *The Twits*, he worked on a Hanna-Barbera cartoon and a Looney Tunes movie for Warner Bros., adapted the Jack Kirby comic *New Gods*, and collaborated with filmmaker Barry Sonnenfeld on an adaptation of an Elmore Leonard novel. He also joined forces with Sonnenfeld as a first-time director on the animated film *Space Chimps*. He was writer and co-producer of *Racing Stripes* for Warner Bros., *Sherlock Homeboy* for Universal Family, *Hong Kong Phooey* for Warner Bros. and Alcon Entertainment, and *Casper: Scare School* for Classic Media.

DeMicco believes an important part of being a director is building a creative environment where everyone — actors and artists — feels comfortable experimenting and suggesting ideas. Keen to share kudos with the 385-strong DreamWorks Animation team that worked on *The Croods*, he related how at times the artists drove the creative process.

In possibly the movie’s most moving scene, Grug, at that point separated from his family and unsure he will ever see them again, lovingly paints their portraits on a cave wall.

“Chris and I were looking at a cave painting one of the artists had drawn and we said, ‘That’s it, this is the iconic image.’ We wrote toward that. We strove to get that in. That’s totally different from any other way of working — it was inspired by the visuals.”

“The coolest part of writing and working in animation is that the visuals inspire the writing and the writing drives the visuals,” DeMicco said.

Coming from a director who shares Grug’s mantra of fear, *The Croods* has a remarkably upbeat ending.

“I wouldn’t have worked on this movie for as long as I did had I not felt like I was emotionally connected to this story of a guy who cares about his family in every frame of the film,” DeMicco said. “Grug learns the biggest lesson of all is just to accept other people’s changes.”

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Finding USC Dornsife a destination for entrepreneurial thinking, these newest faculty members are heading in exciting and novel directions.

By Pamela J. Johnson

These nine intellectual innovators are some of our newest professors and assistant professors. They selected USC Dornsife for the freedom it provides them to think creatively and explore unchartered territory.

Take Jacob Soll, who took a deep breath before telling his now USC Dornsife colleagues, “I really want to do this funky thing where I do research in accounting, but see it as a part of history.” He was thrilled when they replied, “We get it.” Or Scott Fraser, who came to USC from Caltech for the opportunity to expand the imaging technologies he is developing for the heart and eyes that will become crucial devices in treating diseases such as cancer. Or Kate Flint, whose research gives us insight into why we have become so interested in sharing with the world that we just fed the cat.

Read how these enterprising educators are implementing their power to transform.
Tiny brown eggs dotted with what looks like speckles of liquid dark chocolate rest atop nests, while fuzzy, baby quails chirp and waddle inside the glass incubator.

Hanging above a laser-scanning confocal microscope, a poster quotes developmental biologist Lewis Wolpert: “It is not birth, marriage, or death, but gastrulation which is truly the most important time in your life.”

At a microscope inside his laboratory, Scott Fraser concentrates on the moving image of a red, veiny quail heart beating inside an egg: thump thump-thump thump. The image fills a large computer screen.

Fraser’s lab develops the technologies that allow his team to image biological structure and molecular signals. He and his researchers use those technologies to better understand complex events like embryonic development or the changes that take place as diseases progress.

Fraser has expanded into the biomedical realm, where he works toward crucial biomedical devices and treatments in areas from eye disease to cancer.

“We build new microscopes that let us watch as a heart beats and takes shape from a simple tube to a simple double-chambered heart to something that has the four chambers that we’re more used to,” Fraser said, pointing to the beating quail heart image on the screen.

Observing in real time is a critical first step to understanding how heart defects evolve, he noted.

“When people write about the way embryos develop they often compare it to a ballet dance that’s been choreographed.”

But Fraser disagrees.

“It’s more like watching a football game. The rules are the same but whether or not somebody gets a penalty or that one touchdown is different in each game. We’re watching the game from beginning to end, so we are able to see how the whole development progresses.”

Scott Fraser, founder of the Biological Imaging Center at Caltech, joined the faculty in Summer 2012. The USC Provost Professor of Biological Sciences and Biomedical Engineering, and director of science initiatives has a joint appointment at the USC Viterbi School of Engineering.
Born to an Austrian Jewish father and American Indian mother, David Treuer is an Ojibwe Indian from Leech Lake Reservation in northern Minnesota. His siblings range from a brother who has straight, jet black hair and dark skin, to a blond, blue-eyed sister. “I get to hear lots of things people probably wouldn’t say if I looked like my brother,” said Treuer, who has light skin, brown hair and dark watchful eyes. “I hear how people really feel when they don’t know there’s an Indian in the room.”

Treuer’s most recent book, *Rez Life: An Indian’s Journey Through Reservation Life* (Atlantic Monthly Press, 2012), enlightens on Native American issues from sovereignty to treaty rights. He said no Native American should go through life feeling he or she must apologize for not reflecting the backward image of an Indian on horseback living a pre-reservation life. “We don’t look a certain way, don’t act or talk a certain way,” Treuer said. “We refuse to live in a teepee and actually live in a house with running water. In English class, we read *Macbeth*. And we wear shoes and use cell phones. “Some people can’t quite figure that out. That we, in fact, are contemporary people, not just people of the past.”

In the introduction to *Rez Life*, Treuer writes that Indian reservations, and those who live on them, are as American as apple pie, baseball and muscle cars. The Oneida were allies of the Revolutionary Army who fed troops at Valley Forge and helped defeat the British in New York, and the Iroquois Confederacy served as one of the many models for the American constitution, he writes in *Rez Life*. “Unlike apple pie, however, Indians contributed to the birth of America itself.”

David Treuer, professor of English in the Ph.D. in Creative Writing and Literature program, joined the faculty in Fall 2011. A Pushcart Prize winner, he has written five books of fiction and nonfiction. He’s interested in Native American literature, the 20th-century novel, modernism and creative writing.
You wake up in the morning, make toast then tweet about it. Later, you tell your followers about standing in line at Starbucks and feeding the cat.

Kate Flint is interested in the concept of the everyday and ordinary. What is ordinary? How do people represent the ordinary?

“Why do people come to care about unremarkable, ordinary experiences?” asked Flint, whose book, now in its early stages, will focus on how views of ordinariness have changed from the 19th century to now.

“Not just materially, not what shifts in the street, but how have ideas of what is ordinary changed? Do we only think about conceptions of ordinariness when we can set it against something? Are we setting it against heroic or theological ideas — ideas about God, about the transcendent?”

This new project could be considered the antithesis of a book she’s now finishing about flash photography. Using a flash of artificial light in photography could be seen as something remarkable — something used to immortalize a moment.

Yet conversely, flash photography serves to illuminate and make record of the ordinary. The book shows how flash has gone from the miraculous to an inconvenience.

“I’m interested in the whole movement from thinking about flash in terms of something almost magical — providing a revelation like a flash of inspiration — to a relative flashing away at Thanksgiving, or something downright intrusive like the work of paparazzi. The book goes beyond photography. It’s more about a culture that uses photography.”

Flint doesn’t think conventionally. Even as a young child living in Naworth Castle, in Cumbria, England, where her father managed a missile construction site, the little girl didn’t dream of being a princess.

“I wanted to be a truck driver. Because I wanted to travel.”

EXTRAORDINARY

“Not just materially, not what shifts in the street, but how have ideas of what is ordinary changed? Do we only think about conceptions of ordinariness when we can set it against something?”

Kate Flint is Provost Professor of English and Art History, and chair of art history. She arrived Fall 2011 from Rutgers, the State University of New Jersey, and before that taught at Oxford and Bristol universities in England, from which she hails.
Sami Assaf sometimes uses a Rubik’s cube to demonstrate symmetry, among the most crucial ideas in mathematics.

Twist the face of a Rubik’s cube and the cube keeps its symmetry — all sides are the mirror image of one another.

Try any arbitrary sequence of turns and the result does not alter the shape of the cube or disturb its symmetry.

“I’m looking for symmetries of objects and spaces,” Assaf said, holding up a Rubik’s cube. “So if you take this cube and flip it around, it still looks the same. I can rotate it, flip it and it’s still the same cube. So what I look at is how many ways you can change it yet it stays the same.”

But when you consider the colors of the nine squares on each of the cube’s six sides, everything changes.

“Once you take the colors into account it looks different, right?” she said. “Now each face is a different color, so when I flip the cube, the top changes from red to orange, so it doesn’t look the same. Most of my projects have this property at their root: Add more features, like colored faces, and there is less symmetry.”

Assaf applied symmetric functions toward a fundamental problem in representation theory that experts have tried to solve for hundreds of years. The problem is to understand the irreducible decomposition of the tensor product of representations of the symmetric group.

Her approach took creativity with a dash of moxie.

“In order to make any progress you can’t just do what everyone else has done,” Assaf said. “You have to come up with an original approach. Previously, people thought you couldn’t apply symmetric functions to the problem for many good reasons. But we found a way.”
You're at a dinner party and the vichyssoise is a mere memory, the smoked velouté of partridge is gone and you're deep into the butterscotch budino. What's the one subject that has not been broached? Accounting.

"Accounting freaks people out," Soll said. "It makes them nervous. It reminds you of getting audited, of facing your books."

And facing your books has proven to be of upmost importance considering the recent brink of economic collapse. The understanding of accounting, or lack thereof, is responsible for our nation's financial woes, Soll said.

"Here we have a country with a disastrous mortgage bubble we are not out of yet. Household debt is enormous, and debates are carried out in accounting numbers that no one understands and couldn't verify if they wanted to."

Soll is blazing the trail by combining the history of politics and accounting — from a leather pouch filled with money to a full-fledged financial plan by the 19th century, and what this means today.

Studying at the French National Library, Soll learned that 17th-century officials handled state functions, from the royal household to new public buildings, with serious accounting.

Jean-Baptiste Colbert, who served as France's minister of finances from 1661 to 1683 under King Louis XIV, was an accountant first and foremost. Colbert used libraries, accounting, classical scholarship and national science to create an information network and build a modern state.

"First of all: Wow," Soll said. "There, in the archives, this is all accounting talk. There is nothing in history books about this. Who would ever explain the great history of industrialization, the West and modern government through accounting?"

Soll decided he would be the first.
As a 5-year-old growing up in Stockholm, Sweden, Anna Krakus learned English by watching The Sound of Music. “I became obsessed with the film,” said Krakus, who has Polish parents and spoke Swedish and Polish at home. “I watched it over and over and over again. I memorized it and somehow English just stuck.

“I sing really well in English,” she said with a laugh.

Her love of film grew with her interest in literature. She’s currently turning her dissertation into a book about Polish cinema and literature during late communism. For the book, she nabbed a rare series of interviews with Polish film director Andrzej Wajda.

Wajda was the most prominent member of the famous Polish Film School of 1955 to 1963, and the recipient of an honorary Oscar. He gave Krakus unlimited access to his personal archive spanning 60-something years. He saved everything. He dated and filed quotes he jotted on napkins. He did the same for written decisions that came down from censors over the years, along with his responses.

“In some instances he was so forceful and just said, ‘No, I will not cut that scene, end of story,’ in a way we don’t tend to imagine artists of that era taking a stand against politicians or censors.”

Krakus read letters to Wajda from Ingmar Bergman to Steven Spielberg and Wajda’s personal diaries, which contain entries from nearly every day of his adult life. This gave her direct insight into the conditions under which he lived and worked during tumultuous years in Polish history.

She found secret reviews that filmmakers and film critics wrote of movies before they were sent to censors. “Those were an amazing treat,” Krakus said. “They offered some of the best film writing I have ever read, and these documents were never published, just collecting dust in archives.”

Anna Krakus became assistant professor of Slavic languages and literatures in Fall 2012. Interested in law and literature, she graduated from law school at Stockholm University before moving to New York to study literature as a Fulbright Scholar.
Countless have asked, but Gabriel Uzquiano sought to answer: How many angels can dance on the point of a needle? The question asks not what is the case, but rather what *can be* the case. Some philosophers take what *can be* the case to be the same as what *is* the case in alternate universes, which they call possible worlds. For them, the actual world is only one of a plurality of concrete universes.

The angels-on-the-head-of-a-pin question is often used to parody medieval scholastics, but it turns out to pose a problem for that view.

“When you combine various tools from logic and set theory with a certain picture of modality, you find yourself in trouble,” Uzquiano said. “You have to say that there is some infinite cardinal number — although you know not which — so that there can be that many angels, but there cannot be any more than that many angels.”

A recent paper he coauthored in *Mind*, a tongue-in-cheek discussion of Thomas Aquinas, the 13th-century Italian philosopher and theologian, leads to a predicament for modal metaphysicists who believe the possible existence of angels boils down to the existence of merely possible angels in alternate universes.

Uzquiano likes to approach his research and teaching in new ways.

“I think what makes my research distinctive is the way in which I use formal methods in my approach to certain problems in metaphysics.”

And how many angels can dance on the point of a needle? According to Uzquiano, no matter how large an infinite cardinal number may be, there can be at least that many angels.

**A ROLE MODAL**

“You have to say that there is some infinite cardinal number — although you know not which — so that there can be that many angels, but there cannot be any more than that many angels.”

Professor of Philosophy Gabriel Uzquiano arrived in Fall 2011 from Oxford University. Born in Majorca, Spain, he grew up in Tarragona. His expertise spans from philosophical logic and the philosophy of mathematics to metaphysics.
Jennifer Hook decided to compare fatherhood in various countries after reading a study that found fathers in Norway spend about the same amount of time with their children as do fathers in the United States. The study concluded that if fathers in two-parent households use about the same amount of child care in very different contexts, policy must not matter.

“Whoa, hold the phone,” Hook said, recalling her reaction. “You have to look at the national context in which these fathers live.”

A quantitative sociologist, Hook designs and analyzes research questions to thoroughly explore context. In this case, in these two countries, what are the regulations on working hours? What role does the mother’s employment play? How does government child care differ? What are the laws on paternal leave?

“All of these things combine to impact the amount of time fathers are spending with their children.”

Hook found that in Norway, father-child time is similar across families. This is because in that country, there is more full-time employment among mothers, shorter work weeks and more support for paid paternal leave.

In the U.S., many fathers are responsive to household conditions, such as the mother’s employment and spend more time with their children. At the same, in the U.S., there appears to be more inequality in father-child time across households, which affects the average.

“Most American families do not have access to the generous policy supports available in Norway, so they have to come up with individualized solutions, which often means dad has no choice but to pick up the slack.”

Her published studies can help to inform policymakers who are looking for ways to encourage fathers to become more involved in raising their children.
The strongest muscle in the human body, the tongue is our sole muscle connected only on one end. Like an octopus arm, the tongue contains no skeletal support and uses its many muscle groups to contract, lengthen, bend and twist.

Khalil Iskarous is putting that comparison to good use. Iskarous, who studies how the tongue’s motion is organized while speaking, recently received a $1 million National Science Foundation grant to compare the tongue during speech to a moving octopus arm and the wriggling of the worm *Caenorhabditis elegans*. By studying communication, locomotion and manipulation, his team will learn the basic principles of animal movement. The project takes him to USC Dornsife’s Philip K. Wrigley Marine Science Center on Catalina Island, where he photographs octopus arm movements and compares them with ultrasound images of tongues in motion.

By investigating how the tongue behaves in swallowing versus speech, and determining how similar muscular systems serve purposes other than communication, Iskarous hopes to gain insight into the way language differs from other skills in tongue usage.

“Some dialects differ from one another by a couple millimeters here and there of the movement of the tongue,” said Iskarous, who also studies endangered languages. “You can tell when a person is from Chicago or Pittsburgh. We need this kind of flexibility that the tongue gives us.”

Iskarous is also interested in the effect of Parkinson’s disease on speech. Scientists have started using the worm *C. elegans* as a model for studying this disease.

“We can gain a deeper understanding of higher organisms by studying the simpler ones that have the same principles of movement,” he said.

Iskarous and his team will build on this work, analyzing similarities and differences in how the disease affects movement in organisms as different as worm versus human.

“It’s a truly fascinating thing that we take for granted, the tongue. We just wake up, open our mouths and talk.”

An assistant professor of linguistics since Fall 2011, Khalil Iskarous spent a decade as a research scientist at Haskins Laboratories in New Haven, Conn. A Fulbright scholar, Iskarous was born and raised in Cairo, Egypt. While in middle school, he and his family moved to New York.
Deborah Harkness believes the pages of centuries-old manuscripts are enchanted.

Like clues to a mystery, they hold the key to unraveling the chronology, ambitions, failures and successes of those who lived before us. And where records of their pursuits sometimes lead to dead ends, Harkness finds fuel for fiction.

Take Ashmole 782, the enigmatic manuscript that became the jumping off point for *A Discovery of Witches* (Viking Adult, 2011) and *Shadow of Night* (Viking Adult, 2012), the first two installments of her uber-successful *All Souls Trilogy*. Ashmole 782 does in fact exist outside of Harkness’ fictional world, though its whereabouts are currently unknown.

Ashmole 782 was originally donated to the Bodleian Library at Oxford University in 1858 as part of chemist and bibliophile Elias Ashmole’s extensive book, coin and natural object collection. It was designated “Object 782” in the collection and bore the description: “Anthropologia, or a treatise containing a short description of Man in two parts: the first Anatomical, the second Psychological.” Harkness surmises that the manuscript was lost due to an incorrect catalogue entry or shelving error.

Harkness, professor of history in USC Dornsife, breathes life into the mysterious text by filling in gaps in the historical record through the magic of fiction — one of the great perks of being a novelist, she said. “I get to go where the historian’s craft would force me to stop because there’s no evidence. As a novelist I get to say, ‘OK, imagine this is what’s happening.’ ”

In the series, Harkness casts Ashmole 782 in a central role, imagining what magic it may contain. Set in the present day, the manuscript brings together researchers Diana Bishop and Matthew Clairmont in the majestic, gothic Bodleian Library. The manuscript is the main impetus behind their adventures.

In *A Discovery of Witches*, Bishop, a historian and witch who has rejected her deep, Salem, Mass., roots, encounters the enchanted manuscript during the course of her research into alchemy texts:

… I reached out, touching the brown leather. A mild shock made me withdraw my fingers quickly, but not quickly enough. The tingling traveled up my arms, lifting my skin into tiny goose pimples … Shaken by my response, I stepped away from the library table. Even at a safe distance, this manuscript was challenging me — threatening the walls I’d erected to separate my career as a scholar from my birthright as the last of the Bishop witches.

In Bishop’s world, witches, vampires and daemons (spelled as such in allusion to the Greek word for genius) walk among the oblivious regular folk, and the reemergence of Ashmole 782 — previously lost for centuries — sets the supernatural world into an uproar.

However, Bishop — unaware of the manuscript’s significance and upset because she knows it is magical — unceremoniously returns it to the stacks. Then the frightening but handsome 1,500-year-old vampire, Clairmont, appears and clues her in: Ashmole 782 may hold the key to explaining why supernatural creatures exist — and why they are dying out. So begins their search to reclaim the elusive manuscript, which has once again disappeared.

Harkness clearly has fun fusing history and storytelling. Peppered throughout the two books are plot points and characters with true historical origins.

For instance, the Clairmont character in the trilogy is based on Matthew Roydon, a real-life, 16th-century English poet and friend of playwright Christopher Marlowe.
“WHAT INSPIRED ME WAS TO TRY AND THINK
ABOUT HOW I COULD WRITE A FAIRY TALE
FOR GROWN-UPS THAT WAS ABOUT THESE
FANTASTIC CREATURES LIVING AMONG US.”

Harkness studied Roydon while researching her thesis as a master’s student at Northwestern University on the poem “Shadow of Night” by George Chapman. Chapman dedicated the poem to Roydon, whom Harkness described as a very strange, mysterious character.

“He was a spy for the queen, yet we don’t have firm information on where or when he died. He was mentioned in Marlowe’s accidental death inquest, but nobody knows where he was buried. It was as if he vanished.”

Resurrecting Roydon in her trilogy, the reference is unveiled for good when — spoiler alert — Clairmont goes by the name Roydon in Shadow of Night.

“At the very beginning, when I was thinking about what vampires would be like in my world, I thought they would be a total pain like Matthew Roydon,” Harkness said. “Spotlight-adjacent, but never actually in the spotlight long enough that you could get to know them.”

A historian of science and magic in Early Modern Europe, the period from 1400 to 1700, Harkness has made the remarkable leap to bestselling fiction writer. O Magazine included A Discovery of Witches on its “15 Books to Watch for in February 2011” list, and it landed at the number two spot on The New York Times bestseller list. The second installment, Shadow of Night, did even better, hitting The New York Times bestseller list at number one. Together, the books have been translated into more than three dozen languages.

As a historian, Harkness’ research focuses on how scholars studied the natural world from the Middle Ages through the Enlightenment and Renaissance, up to the 18th century. This was the time of witch hunts, when there was no distinction between magic and science.

Her fictional work fittingly mirrors that dynamic. “People in the Early Modern Period genuinely believed that supernatural creatures lived among them because they had different ideas about the world and how it worked,” Harkness said. “Very educated people believed it was completely possible to have supernatural powers.”


But it was the recent explosion of vampire and witch lore in pop culture that got Harkness thinking: What if supernatural creatures do, in fact, exist as her research subjects believed, and if they did, what would they do for a living? “What inspired me was to try and think about how I could write a fairytale for grown-ups that was about these fantastic creatures living among us,” Harkness said.

“I explain the world from inside their communities. I think in that way it’s an approach that would make sense to other historians of science because what we do is study the systematic ways the people in the past looked at the world and their place in it.”

Harkness is currently on sabbatical to complete the final installment of the All Souls Trilogy. Though she works mainly at her Los Angeles-area home, she will write anywhere and everywhere: “I’ve written on the Doheny Library steps with my laptop; I’ve written in the library café, in my office, at home, hotel rooms, on the train between London and Paris — you name it.”

In case the muse strikes, she always carries with her a laptop and small notebook. However, sometimes she’s not in the position to use them. During a long car ride on Interstate 5 she was caught off guard. “Driving is wonderful because your mind floats. I had to pull off to get a coffee, and I ended up with this stack of McDonald’s napkins with bits and pieces of ideas for Shadow of Night on them.”

Harkness doesn’t usually go through an intense research phase prior to writing each book since much of the historical information exists in her head. However, she made special trips to visit the cities she writes about in her books. “I lived in a tiny, tiny village in the Auvergne in France,” Harkness said. “There were about 25 residents and goats. I really got as close as I could get to what it would be like to live in a village in the Auvergne in the 16th century.”

She also spent time in Prague, a central location in Shadow of Night. “I had never been to Prague and there was no way I could actually write about somebody’s experience without visiting it myself,” she said. “Walking, listening to the sounds, feeling the air, the wind as it comes off of the river. It’s that intangible experience, the sensory detail, that I hope is what makes the book feel real for my readers.”

She was already familiar with Oxford and London — two cities she lived in as an undergraduate studying abroad and later as a Fulbright fellow. Harkness, who grew up in suburban Philadelphia, is the older of two children born to an American father, a sales manager in a paint shop, and an English mother, a secretary.

Her books have garnered her swarms of dedicated fans, whom she personally interacts with on social media. And as creativity breeds creativity, her fans have produced their own All Souls items: jewelry with story-inspired charms, knitting patterns incorporating the book jacket design and Pinterest boards collecting images of narrative details and locales. “It’s amazing to inspire not just people’s curiosity and their empathy, but also their creativity,” Harkness said.

On her Facebook discussion forum, fans have begun formulating dream casts for the All Souls Trilogy movies in the works. Warner Bros., picked up the film rights to A Discovery of Witches in 2011. Pulitzer Prize-winning playwright David Auburn is currently adapting the novel for the silver screen. One musician fan wrote a suggested theme song for the film.

Even amidst this adventure, Harkness is excited to return to teaching at USC Dornsife in the Fall and get her students fired up about history. “I really want to continue to find ways to make my students’ learning historically rigorous and sound, but also inspiring and exciting.”

We know she’ll deliver. There’s magic in her storytelling.
It begins with absence and desire. It begins with blood and fear... It begins with a discovery of unknown...

We arrive in an undignified heap of worth and aspire... blind we were...
positive change

In a university-wide effort, USC Dornsife undergraduates teach civic engagement and entrepreneurship to elementary schoolchildren — who learn that every penny counts.

By Laura Paisley

Fifth grader Gillian Morgan explained why her class decided to raise money to help the homeless.

“First we were talking about our own families and what they mean to us, then we talked about people living on the streets that don’t have anything,” said the animated little girl who aspires to become an actress or politician.

“They carry signs saying ‘please help me.’ And we don’t want that in our community. We want people to have homes.”

Fifth grader Jada McKnight also voted to fundraise for the homeless.

“The community needs help and we need to start caring for it,” she said.

Located south of USC’s University Park campus, the girls’ class at Lou Dantzler Preparatory Charter Elementary School had been discussing the concept of community engagement with USC Dornsife students, who were there to introduce the Penny Harvest program at the school.

The largest child philanthropy program in the United States, Penny Harvest teaches 4- to 14-year olds the principles of civic engagement and empowerment as vehicles for positive change. Developed by nonprofit organization Common Cents, Penny Harvest features a fundraising component in which students collect money from neighbors, friends and families to grant to an organization of their choosing.

Program participant Ana Arce, a USC Dornsife junior and political science major, said her immediate goal going into a school is to get the children to relax and open up, especially the shyer students.

“It helps when we start talking about what issues in their community the students might want to address,” she said. “One girl talked about how she’d had a beloved dog that passed away, and now she wanted to help the stray dogs she saw wandering the streets. Everyone had their own individual story and it was so interesting to see how their personal...
experiences allowed them to connect to this project.”

These children are growing up in the era of Facebook, online media and omnipresent smartphones — none requiring face-to-face contact. One could argue that teaching civic engagement to today’s children is more important than ever.

“where the money goes is up to the kids. They did all the research. We were there to help them out, but they ultimately make the decisions.”

Learning to engage with one’s community has the potential to shape the next generation in a positive way and reinforce the kind of meaningful connections that enrich the human experience, said Ann Crigler, professor of political science in USC Dornsife.

Crigler believes that civic engagement begins with actions as simple as collecting stray pennies for a good cause. She came up with the idea for the program while on sabbatical last year, when she was inspired by her brother-in-law who sits on the board of Common Cents.

“I thought, ‘I have some time here to come up with something hands-on, to create an opportunity to get multiple professors from USC to work together on a project and to combine research with teaching,’” said Crigler, who quickly began assembling a group of interested collaborators.

Crigler then developed and launched her new course, “Applied Politics: Civic Engagement and Leadership,” in Fall 2012. Its goal is to introduce and implement the Penny Harvest program in Los Angeles schools and at USC. In the process, her students learn some of the complex entrepreneurial lessons associated with starting up a nonprofit organization.

One of Crigler’s students, political science senior and Joint Educational Project (JEP) veteran Eric Deng, explained why he found those lessons valuable. He enrolled in the inaugural class to engage in something he felt would yield real results, beyond papers, test scores and grades.

“I’d been taking a lot of theory classes, and as a senior I suddenly realized, I’m about to go out into the real world and I’m actually going to have to do things and apply all this theory,” Deng said. “I thought this class would be a great opportunity to make an impact in the community.”

Deng spoke of the complexities of starting a nonprofit from scratch. He recounted why the class was able to visit only one school during the first semester of the program, Sacred Heart Elementary School.

“We would have liked to do more, but that was part of the challenge — dealing with the bureaucracy of the Los Angeles Unified School District (LAUSD). But, once in the school, it was a really cool experience.”

The program’s outreach was initially intended to focus on Boyle Heights, a working-class Latino neighborhood east of downtown that the class explored during field trips early in the semester. But due to complications with procuring formal school district approval, training participating schools and finding support staff available at each school, the Fall class received approval for only Sacred Heart in the Lincoln Heights neighborhood, near the USC Health Sciences campus.

Although thrilled to get permission to work at Sacred Heart, the undergraduates learned that things don’t always go according to plan, despite best efforts. They learned how to adapt to changes on the fly.

Following guidelines set forth by Penny Harvest, USC student participants visit classrooms in small groups and teach children about civic engagement and the program through a “Wheel of Caring” lesson. In this exercise, children discuss what community is and how anyone can be part of a community in order to become a change agent. Then the children decide what issues they want to address.

After each classroom discussion, the USC students help the school as a whole to develop a “Wheel of Caring” pie chart, composed of different wedges displaying each classroom’s chosen philanthropic cause.

Deng recalled visiting a sixth grade classroom at Sacred Heart.

“We asked the kids questions to get them to think in a big way about their community and how to make decisions independently,” Deng said. “That’s the beauty of the program — where the money goes is up to the kids. They did all the research. We were there to help them out, but they ultimately make the decisions.”

On Feb. 1, 2013, Lou Dantzler Preparatory Charter Elementary School, a newly participating school for the Spring 2013 semester, organized a pep rally to launch the program and kick off its two-week penny collection period. Children from each classroom presented their philanthropic ideas.

As part of the event, a group of girls choreographed a dance routine and a cheer, performing in line with pennies taped to their shirts in the shape of letters, collectively spelling out P-E-N-N-I-E-S. A fifth-grade boy contributed to the performance by drumming rhythmically on two overturned plastic buckets. The excitement was contagious. The students couldn’t wait to begin.

They went on to raise more than $1,000 for charity.

In Crigler’s course, students are divided into four activity committees to manage the various tasks associated with building a nonprofit from the ground up. Each group develops an action plan and timeline. A communication committee focuses on messaging and promotion of the program. Another team researches community businesses and networks that could help develop the program. Still another researches funding opportunities. An evaluation committee tracks the progress and effectiveness of the program in schools and the community.

The Fall 2012 class held a “mini Penny Harvest” at USC and presented the funds raised to the students of Sacred Heart.

“Executing [the mini Penny Harvest] definitely sharpened our leadership skills,” said Nikki Pujji, a junior double-majoring in economics and political science, who helped to organize the event. “We had to communicate very effectively to make it all work.”

Crigler’s course has come to fruition through a collaboration of several academic units in addition to local elementary schools and Common Cents. Also involved are the USC Office of Community Partnerships, USC Dornsife faculty and staff, USC Dornsife’s Office of the Dean, JEP, Jesse M. Unruh Institute of Politics, the Department of Political Science, USC Office of the Provost, USC Annenberg School
for Communication and Journalism, USC Price School for Public Policy, USC Viterbi School’s Division of Engineering and Education, and USC Rossier School of Education. In an effort to develop the program, all are contributing expertise on everything from public relations to program evaluation to a sustainable business plan.

“We’ve been building all kinds of partnerships,” Crigler said. “It’s very exciting.”

After each Fall course, during which undergraduates introduce to children the concepts of civic engagement and how to address community issues through fundraising, Crigler has developed a follow-up course that builds on those efforts.

In the Spring course, undergraduates teach children in greater depth about public and private agencies in their community, and the issues the youngsters have identified. They advise them on how to find people and organizations who are working on these issues, then show them how to conduct interviews with advocates and officials. With that information and the interests of the neighborhood and fellow students in mind, the children form a “philanthropy roundtable,” through which they learn to deliberate. They also learn how to represent others’ interests and to reach decisions that can make a difference in their community.

By the end of the second semester, much has been accomplished.

For the Fall 2013 section of Crigler’s course, participation is being secured for seven schools, concentrated in the Boyle Heights neighborhood.

“Professor Crigler is an inspiration,” Pujji said. “This class is hands down the most interactive course I have taken so far at USC.”

IN CHILDREN WE TRUST
The Penny Harvest program teaches local elementary school children about philanthropy and civic engagement while introducing USC Dornsife undergraduates to hands-on, entrepreneurial learning as they set up a nonprofit organization from the ground up.
Throw trash into the Santa Monica Bay and you’re subject to a $1,000 fine. At the turn of the 20th century, however, littering was sanctioned in the pursuit of science.

In 1901, USC hired its first marine biologist, Albert B. Ulrey. A noted freshwater expert from Indiana, Ulrey headed west with his new bride and future USC alumna Florence Katherine Speicher, to study saltwater marine ecology and aquatic life forms ranging from snails and abalones to dune plants and algae. One of his first experiments was determining what effect dumping refuse in the bay had on its inhabitants.

Less than a decade later, Ulrey established — and become director of — USC’s Marine Biological Station in Venice, Calif. A half-hour trip from USC’s University Park campus by automobile or Pacific Electric “Red Car” trolleys, this facility — housed in a public aquarium on the Venice pier — provided cutting-edge research resources to scholars. In cooperation with the Abbot Kinney Company, the facility had eight research laboratories and a lecture space large enough for 40 students.

USC’s Marine Biological Station afforded then-revolutionary research opportunities to students, including the chance to sail on the station’s large sloop, the Anton Dohrn, to investigate deep sea conditions.

Just days before Christmas 1920, a fire ravaged the pier, destroying almost every structure, including the Marine Biological Station.

From these humble beginnings, USC’s scientific research into environmental studies has grown tremendously. In 1965, the Wrigley family donated land to USC to establish a marine research and teaching facility on Santa Catalina Island. The campus is now known as the USC Philip K. Wrigley Marine Science Center on Catalina Island. It includes eight faculty and teaching laboratories, a full-service waterfront for research and education, conference facilities and housing.

Today, dozens of faculty members conduct research on environmental topics in USC Dornsife. The USC Wrigley Institute for Environmental Studies, which includes the Wrigley Marine Science Center, and its affiliated faculty continue to refine and expand many of the research principles Ulrey pioneered. — D.K.

Albert B. Ulrey takes time from his aquatic research in 1907 to pose for a photo. A Paraguayan tropical aquarium fish from the Characidae family, Hyphessobrycon ulreyi (better known as Ulrey’s tetra) is named after the professor of botany and zoology.

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Faculty News

IRVING BIEDERMAN, Harold Dornsife Chair in Neuroscience and professor of psychology and computer science, delivered the Provost’s Annual Lecture at Kansas State University.

FRANK CORSETTI, associate professor of earth sciences, has been appointed a fellow of the Geological Society of America.

University Professor ANTONIO DAMASIO, David Dornsife Chair in Neuroscience, professor of psychology and neurology, and director of the Brain and Creativity Institute, received an honorary doctorate from the University of Leuven in Belgium.

University Professor HANNA DAMASIO, Dana Dornsife Chair in Neuroscience and professor of psychology and neurology, received a doctora honoris causa from the Open University of Catalonia in Barcelona, Spain.

BILL DEVERELL, professor and interim chair of history, has been named a distinguished lecturer of the Western Historical Association.

KATRINA EDWARDS, professor of biological sciences, earth sciences and environmental studies, was awarded the 2012 A.G. Huntsman Award for Excellence in Marine Science.

MOH EL-NAGGAR, assistant professor of physics, was selected as one of Popular Science’s 2012 Brilliant 10, the magazine’s annual honor roll of the 10 most promising young scientists.

LEE EPSTEIN, Provost Professor of Law and Political Science, has been selected to serve as a Phi Beta Kappa Visiting Scholar for the 2013–14 academic year.

JED FUHRMAN, McCulloch-Crosby Chair of Marine Biology, was honored with a prestigious Marine Microbiology Initiative Investigator Award from the Gordon and Betty Moore Foundation.

SOLOMON GOLOMB, University Professor and Distinguished Professor of Electrical Engineering and Mathematics, received the National Medal of Science from President Barack Obama at a White House ceremony. Golomb also received a commendation from the city of Los Angeles in recognition of this national accolade.

DEBORAH HARKNESS, professor of history, was named a “Woman of Influence” by Mount Holyoke College.


ALWYN LIM, assistant professor of sociology, received the 2012 ProQuest Distinguished Dissertation Award.

VALTER LONGO, professor of gerontology and biogical sciences, has received the American Federation for Aging Research’s Vincent Cristofalo Rising Star Award in Aging Research.

M.G. LORD, professor of mathematics, was named a “Rising Star” by the Association of Psychological Science.

University Professor KEVIN STARR, professor of history, and policy, planning and development, received the Los Angeles Times’ Robert Kirsch Award.

VERONICA TERRIQUEZ, assistant professor of sociology, received the 2012 Stirling Prize for Best Published Work in Psychological Anthropology from the Society for Psychological Anthropology section of the American Anthropological Association for her book The Paradox of Hope: Journeys through a Clinical Borderland (University of California Press, 2010).

SRI R. HARAYAN, professor (research) of chemistry, was selected by the U.S. Energy Department’s Advanced Research Projects Agency - Energy (ARPA-E) to receive funding through its “OPEN 2012” program.

KENNETH MEALSON, Wrigley Chair in Environmental Studies and professor of earth sciences and biological sciences, has been appointed a fellow of the American Geophysical Union.

MANUEL PASTOR, professor of sociology and American studies and ethnicity, was selected by Poder Hispanic Magazine as one of “The Green 100: Latinos Fighting for the Planet” for his work as director of USC Dornsife’s Program for Environmental and Regional Equity.

DARBY SAXBE, assistant professor of psychology, has been named a “Rising Star” by the Association of Psychological Science.

University Professor ALAN WATTS, professor of history, and USC Viterbi. He is the scientific director of the new USC Lockheed Martin Quantum Computing Center, and cofounder of the USC Center for Quantum Information Science and Technology.

SUSAN MONTGOMERY, will join the USC Faculty in 2013 as professor of mathematics.

ANNA KRYLOV is professor of chemistry.

DANIEL LEDAIS. professor of electrical engineering and chemistry, with joint appointments in USC Dornsife and USC Viterbi School of Engineering. He is the scientific director of the new USC Lockheed Martin Quantum Computing Center, and cofounder of the USC Center for Quantum Information Science and Technology.

JOHN MCCARDLE, is professor of psychology and gerontology, with joint appointments in USC Dornsife and USC Davis School of Gerontology.

ARIEH WARSHEL is Distinguished Professor of Chemistry and Biochemistry.

ALAN WATTS is professor of biological sciences, physiology and biophysics.

Lucky Thirteen

Chosen by their peers in recognition of research that significantly raises the bar of our understanding of science worldwide, an unprecedented 13 USC Dornsife professors have been selected fellows of the American Association for the Advancement of Science (AAAS). This brings the total number of USC Dornsife AAAS fellows to 47. The organization seeks to advance science and engineering innovation throughout the world for the benefit of all people. The new fellows are:

NORMAN ARNHEIM is Distinguished Professor of Biological Sciences, Molecular Biology and Biochemistry and Ester Dornsife Chair in Biological Sciences, who has joint appointments in USC Dornsife and the Keck School of Medicine of USC.

MARGARET GATZ is professor and chair of psychology, professor of gerontology and preventive medicine, and director of the Education Core at the USC Alzheimer’s Disease Research Center.

THOMAS JORDAN is University Professor, W. M. Keck Foundation Chair in Geological Sciences and Professor of Earth Sciences, and director of the Southern California Earthquake Center, housed in USC Dornsife.

ANNA KRYLOV is professor of chemistry.

DANIEL LEDAIS. professor of electrical engineering and chemistry, with joint appointments in USC Dornsife and USC Viterbi School of Engineering. He is the scientific director of the new USC Lockheed Martin Quantum Computing Center, and cofounder of the USC Center for Quantum Information Science and Technology.

JOHN MCCARDLE, is professor of psychology and gerontology, with joint appointments in USC Dornsife and USC Davis School of Gerontology.

SUSAN MONTGOMERY is professor of mathematics.

ARIEH WARSHEL is Distinguished Professor of Chemistry and Biochemistry.

ALAN WATTS is professor of biological sciences, physiology and biophysics.

Continued on page 54.
When the first students of the newly established USC Glorya Kaufman School of Dance matriculate in Fall 2015, their education will extend beyond learning to gracefully perform a plié, pirouette and rond de jambe; they’ll also be taught the business and history of dance.

Fortunately, John E. Bowlt, professor of Slavic languages and literatures in USC Dornsife, has recently coauthored an authoritative volume on one of the most important interludes in the Russian cultural renaissance of the early 20th century.


Bowlt and his coauthors, Nina and Nikita Lobanov-Rostovsky and Olga Shaymyan, guide the reader through the variety of movements, styles, productions and projects found in the theatre during this period, particularly those of the Ballets Russes, rivaled only by the Bolshoi.

Using the extensive world-renowned Lobanov-Rostovsky collection as a guide, the authors documented the history of modern Russian art.

“The era witnessed an unprecedented creative symbiosis of artists, musicians, directors, and performers, which left an indelible impression upon the very notion of the theatre in its widest sense,” said Bowlt, director of the Institute of Modern Russian Culture, housed in USC Dornsife.

“New dramas by Anton Chekhov, new ballet productions by Sergei Diaghilev, new films by Sergei Eisenstein demanded innovative and often radical solutions — prompting a bold generation of painters such as Léon Bakst, Marc Chagall, Wassily Kandinsky, and Kazimir Malevich to turn their sights to stage design and to regard it not as a mere craft, but as a medium equal to studio painting.”

“Also important is the fact that major women artists such as Aleksandra Exter, Natalia Goncharova, and Lyubov Popova came to the fore, constituting the ‘Amazons’ of the Russia avant-garde,” Bowlt added.

With more than 200 color illustrations of selected designs — plus indices to artists, theatre companies and primary productions, and a comprehensive bibliography for the visual and performing arts in Russia — Masterpieces provides a “sense of the rich variety, experimental energy, interdisciplinary nature and international influence of Russian culture just before and after the Bolshevik Revolution of October 1917,” Bowlt said.

THE INTERNATIONAL RELATIONS OF MIDDLE-EARTH: Learning from The Lord of the Rings

University of Michigan Press / Patrick James, USC Dornsife Dean’s Professor of International Relations and director of the Center for International Studies, co-authored a guide that provides an introduction to international relations using J. R. R. Tolkien’s fantastically popular trilogy as a foundation due to its major themes of good versus evil and human agency versus determinism.

DANA GOODYEAR’s second collection of poetry draws on the scenery of Los Angeles — the teenagers, vagrants, pornographers — and the beautiful decay that serves as an insistent reminder to them all.

LARGE WHITE HOUSE

SPEAKING: New Issues Press / In his new volume of poetry, associate professor of English Mark Irwin balances precision — each line has been carved into being with consummate care — against an enchanting and tonic strangeness, an adventurous commitment to the depths and reaches of metaphor.

EX-CINEMA: From a Theory of Experimental Film and Video University of California Press / Akira Mizuta Lippit, professor of cinematic arts, comparative literature, and East Asian languages and cultures, explores the aesthetic, technical and theoretical reverberations of avant-garde film and video.

THE ORACLE OF HOLLYWOOD BOULEVARD

W. W. Norton & Company / Master of Professional Writing Program senior lecturer and The New Yorker staff writer Dana Goodyear’s second collection of poetry draws on the scenery of Los Angeles — the teenagers, vagrants, pornographers — and the beautiful decay that serves as an insistent reminder to them all.

SINews of the Nation: Constructing Irish and Zionist Bonds in the United States Polity Books / Assistant Professor of Sociology Dan Lainer-Vos treats nation-building as a practical organizational accomplishment and examines how the Irish republicans and the Zionist movement secured financial support in the United States during the first half of the 20th century.

SANDALWOOD and CARRION: Smell in Indian Religion and Culture Oxford University Press / James McHugh, assistant professor of religion, explores the deeply significant religious and cultural role of smell in India throughout the first millennium CE.

10 PRINT The MIT Press / Mark C. Marino, associate professor (teaching) in the Writing Program, and his coauthors, take a single line of code — the extremely concise BASIC program for the Commodore 64 — and use it as a lens through which to consider the phenomenon of creative computing and the way computer programs exist in culture.

PRINTING A MEDITERRANEAN WORLD: Florence, Constantinople, and the Renaissance of Geography Harvard University Press / Assistant Professor of Art History Sean Roberts demonstrates that Florentine humanist and statesman Francesco Borlinghieri’s Geographia represents the moment of transition between printing and manuscript culture, while forming a critical base for the rise of modern cartography.

THE CULTURAL POLITICS OF THE NEW AMERICAN STUDIES MPublishing, University of Michigan Library / USC Associates Chair in Humanities and Professor of English and American Studies and Ethnicity John Carlos Rowe describes how neoliberal ideology has used the issues of feminism, gay rights, multiculturalism, transnationalism and globalization, class mobility, religious freedom, and freedom of speech and cultural expression to justify a new “American exceptionalism,” designed to support U.S. economic, political, military and cultural expansion around the world in the past two decades.

CURIOUS SUBJECTS: Women and the Trials of Realism Oxford University Press / Hilary M. Schor, professor of English, comparative literature, gender studies and law, and co-director of the USC Center for Law, History and Culture, provides thought-provoking new readings of the most canonical novels of the 19th century — Hard Times, Bleak House, Vanity Fair and Daniel Deronda among them — and pushes well beyond commonplace historicist accounts of British culture in the period as a monolithic ideological formation.

LABYRINTH

GemmaMedia / The central character in Master of Professional Writing Program lecturer and Los Angeles Times book critic David Ulin’s fictive novel takes a journey of the spirit, which leads him to reflect on who he is and who he used to be, and on the relationships between distance and belonging and between memory and identity.
Out of Sight

Rangaswamy Srinivasan ’56 has been awarded the nation’s top honor for technological advancement.

Rangaswamy Srinivasan (Ph.D., chemistry, ’56) of the IBM Corporation has been presented with the National Medal of Technology and Innovation, the nation’s highest honor for technological achievement.

President Barack Obama awarded Srinivasan — who set the groundwork for laser eye surgery — the medal during a White House ceremony in Washington, D.C., in February 2013. The award recognizes those who have made lasting contributions to America’s competitiveness, standard of living and quality of life through technological innovation, and who have made substantial contributions to strengthening the nation’s technological workforce.

Srinivasan is credited with inventing an interaction between pulses of ultraviolet laser radiation and organic solid matter such as polymer (plastics) and living tissue, under controlled conditions. He named his 1980 invention ablative photodecomposition (APD).

A direct outcome of his invention came along more than two decades later with laser eye surgery, or LASIK, to correct visual impairments.

Srinivasan said it was gratifying to know that the work he did in USC Dornsife on the chemistry of proteins would inspire him 25 years later to study the interaction of animal tissue with the pulsed radiation from an ultraviolet, excimer laser. Srinivasan did the work for his Ph.D. thesis under the supervision of the late professor Sidney W. Benson.

“On that day in November 1981, I was amazed to find that the tissue was not ‘zapped’ as was the expectation among the laser scientists, but smoothly etched away, layer-by-layer, to leave a microscopic channel,” Srinivasan said. “It took another 15 years before these observations would be developed as a medically acceptable surgical technique for the reshaping of the human cornea. This is the process that is known today in all developed countries as LASIK eye surgery.” —P.J.P.

Alumni News

1940s

ARTHUR L. ALARCÓN (B.A., political science, ’49; LL.B., ’51), a federal judge, was honored as Hispanic of the Year by the San Bernardino/Riverside County chapter of the National Latino Police Officers Association.

S.L. (SID) STEBEL (B.A., English, ’49) post-Holocaust thriller, The Collaborator, about an Israeli accused of conspiring with the Nazis, was among the first novels chosen by Amazon to introduce its audiobook program.

1950s

ALAN BRUSH (B.A., zoology, ’56), professor emeritus, physiology and neurobiology at the University of Connecticut, was honored with the Marion Jenkinson Service Award of the American Ornithologists’ Union.

LUN W. HOM M.D. (B.S., zoology, ’58), a cancer surgeon who was appointed clinical assistant professor of surgery at USC in 1980, retired at age 79 after 45 years of practice and instruction in Long Beach, CA.

1970s

JULIET DE CAMPOS (B.A., interdivisional studies, ’78; M.S., ’80; M.D., ’84), an orthopaedic surgeon, joined the Andrews Institute for Orthopaedics and Sports Medicine and Baptist Medical Group in Pensacola, FL.

JOHN MEARSHEIMER (M.A., international relations, ’74) was awarded the John J. Mearsheimer wounded warrior scholarship for his novel Freeman.

1980s

CAREN CATY (B.A., English, ’83) was named a senior fellow at Humane Research Institutes by the American Humane Association.

The Collaborator, about an Israeli accused of conspiring with the Nazis, was among the first novels chosen by Amazon to introduce its audiobook program.

1990s

ALAN BRUSH (B.A., zoology, ’56), professor emeritus, physiology and neurobiology at the University of Connecticut, was honored with the Marion Jenkinson Service Award of the American Ornithologists’ Union.

ROBERT ROSENTHAL (B.A., ’74; M.S., geology, ’77) was appointed president and chief executive officer, secretary and chairman of the board of directors of North American Oil and Gas Corporation.

GRACE KADNER WICKER-SHAM (M.A., economics, ’76), senior vice president and senior financial and economic analyst for Carpenter and Company and the Carpenter Community BancFund, joined the board of directors of Plaza Bank.

MICHAEL WILLIAMS (B.A., political science, ’75; J.D., ’80) was appointed Texas’ top education official by Gov. Rick Perry, becoming the first African American to be named state education commissioner.

1980s

CAREN CATY (B.A., English, ’83) was named a senior fellow at Humane Research Institutes by the American Humane Association.
TROJAN TRAVEL

HAVE TEACHER WILL TRAVEL

USC faculty hosts put the USC Alumni Association’s Trojan Travel at the head of the class.

Imagine learning about Charles Darwin’s theories of evolution while observing the giant tortoises, finches and seals of the Galápagos Islands, which inspired the English naturalist’s revolutionary text _The Origin of Species_. Or studying the ruins of an ancient Roman settlement in Jordan, whose rich history spans millennia. For intellectually curious travelers whose dream vacations combine leisure and learning, these opportunities are available through Trojan Travel, the USC Alumni Association’s affinity travel organization. For the past 35 years, Trojan Travel has been dedicated to promoting lifelong learning and intellectual enrichment through travel, and to strengthening the bond between Trojans and USC. Every year, the program offers USC alumni, family and friends approximately 40 trips all over the globe, many featuring USC faculty hosts.

These faculty hosts hail from the full range of USC schools, with the majority representing USC Dornsife, where professors with multiple disciplines are the norm. A total of eight Dornsife faculty are scheduled for trips this year; most are longtime supporters of the travel program. They enhance the travel experience by spotlighting a destination’s culture and history and by sharing their expertise to deepen the traveler’s understanding of the places they visit. In the words of Professor of International Relations and frequent Trojan Travel host Laurie Brand, “these faculty-led excursions are like ‘living classrooms’ — without tests or term papers. For more information on Trojan Travel’s faculty-led trips and other excursions, including adventure and young alumni travel, call (213) 821-6005 or visit alumni.usc.edu/travel.

RUSS JONES (B.A., sociology, ’89), an attorney in North Platte, NE, announced plans to seek election to Nebraska’s 42nd senate seat in 2014.

ESTHER KIA’AINA (B.A., international relations, ’85) was appointed deputy director of the Department of Land and Natural Resources by Hawaii Gov. Neil Abercrombie.

ANNA MARIA LOPEZ (B.A., physical education, ’82) was inducted into the Hall of Fame by the Catholic Youth Organization/Camp Howard.

DENISE O’BOURKE (B.A., political science, ’88) has been sworn in as a prosecutor with the Maricopa County Attorney’s Office.

READ TAYLOR (M.S., geology, ’88) has been appointed to the boards of directors of Rio Grande Mining Corp. and Acadia Resources Group.

LAURA SKANDERA TROMBLEY (Ph.D., English, ’89), president of Pitzer College, was appointed to the J. William Fulbright Foreign Scholarship Board by President Barack Obama, becoming the only current board member to represent the western United States.

DAVID G. WALLACE (M.A., international relations, ’81), a retired U.S. Air Force colonel and former aerospace executive, has joined the Ada County Highway District in Idaho as deputy director of the Planning and Projects Division.

GRAEME WILSON (M.A., international relations, ’81) became Australia’s High Commissioner to South Africa, the country’s largest African trading partner with two-way investment totaling $5 billion in 2011.

1990s

AMY BRANDT (B.A., political science, ’93) joined Prospect Mortgage, LLC in Sherman Oaks, CA, as president of correspondent lending.

CAROL CARPENTER (MPW, ’98) debuted her play Sweet, Sweet Spirit, winner of the High Desert Play Festival, at New Mexico State University, where it opened the fall season.

SONYA CHRISTIAN (M.S., applied mathematics, ’90) joined California’s Bakersfield College as its 10th president. Christian served most recently as vice president and chief academic officer at Lane Community College in Eugene, OR.

STEPHEN CONROY (Ph.D., economics, ’98), professor of economics at the University of San Diego, has been appointed director of USD’s Center for Peace and Commerce.

STEVE DZIEDZIC (B.A., mathematics, ’92), formerly senior vice president and chief financial officer of Assurant Health of Milwaukee, Wis., has moved to the post of senior vice president, new business development.

MARK E. FORSTER (B.A., political science and international relations, ’95; J.D., ’98) was appointed general counsel by Sabal Financial Group, Newport Beach, Calif.

ZSA ZSA GERSHICK (MPW, ’96), author and playwright, debuted her second play, _Coming Attractions_, at San Diego’s Moxie Theatre in June and, in October, wrote and directed Letters to ONE: From Fringe to Forefront, a dramatic reading of material from The ONE National Gay & Lesbian Archive at USC to honor the archive’s 60th anniversary. A stage adaptation of her book _Gay Old Girls_ (Alyson Books, 1998) has been commissioned by San Diego’s Diversionary Theatre.

JON HARTMERE (B.A., international relations, economics and creative writing, ’97) saw his rock musical, _Bure_, debut off-Broadway at New York’s New World Stages in December 2012. He developed the idea for the coming-of-age story while at USC.

WEIL (Ph.D., geography, ’97), professor of Asian Pacific American studies and geography at Arizona State University, was appointed a member of the National Advisory Committee on Racial, Ethnic and Other Populations by the U.S. Census Bureau. She received the 2012 Distinguished Scholar of Ethnic Geography Award from the Association of American Geographers’ Ethnic Geography Specialty Group.

KIMBERLEY LOVATO (B.A., international relations, ’90) was awarded two Lowell Thomas awards in September 2012, from the Society of American Travel Writers, including a gold for her book _Walnut Wine and Tulle Groves_ (Running Press, 2010).

CHARLES MENZIES (B.A., international relations, ’95) was appointed deputy director of the State Bureau. She received the 2012 Distinguished Scholar of Ethnic Geography Award from the Association of American Geographers’ Ethnic Geography Specialty Group.

2000s

MATEW ARSULICH (B.A., English, ’95) was appointed brand manager at Paramount Pictures in the Home Media Distribution Department.

CHRISTINA ALMEIDA CASSIDY (B.A., political science and journalism, ’01), AP’s news editor for Georgia, has been named lead Statehouse reporter for the state. She will focus on education and other coverage related to state agencies, with an emphasis on exploring how tax dollars are spent.

Continued on page 56.
2010s
LAURENCE CLERFÉVILLE (Ph.D., French, ’10) was named assistant professor of modern languages, French, by Saint Michael’s College in Colchester, VT.

MARY COYNE (B.A., art history, ’10) presented the multi-artist exhibitions Searchin’: Los Angeles and the Quest for the Sublime and Into the Wilderness: The Journey Within at Angels Gate Cultural Center in San Pedro, CA.

GRAHAM FINK (B.A., psychology, ’10) has been touring with chart-topping band Milo Greene, of which he is a member. Fink, who shares vocals and plays a variety of instruments, performed with the group on the Late Show with David Letterman, Conan, Last Call with Carson Daly and The Tonight Show with Jay Leno. The group also released a short film, Moddisan, to accompany their debut album.

CHARLISSE L’PREE (Ph.D., psychology, ’12) will join Syracuse University in Fall 2013 as assistant professor, with a specialty in group representation and diversity, in the Newhouse School of Public Communications. She taught psychology of interactive media in the Master’s of Human Behavior Program in USC Dornsife.

MARTIN REIMANN (Ph.D., psychology, ’13) will join the University of Arizona Eller College of Management as assistant professor of marketing in Fall 2013. He has published numerous scholarly articles on topics of emotion and consumption in leading academic journals and is the recipient of several prestigious awards and honors.

DAVID RANDS (Ph.D., history, ’11) joined Austin Peay State University as assistant professor of history.

Engagements, Weddings, Anniversaries and Births
JESSICA BRÖMELHÖFF (Ph.D., psychology, ’10) is engaged to Lucas Seibert. She is a fellow in psychology at the West Los Angeles Veteran’s Administration. She holds a master of public health from Yale University and a bachelor’s degree in psychobiology from Wellesley College. The couple is planning a May 23, 2013, wedding.

JEROME COSTE (B.A., psychology, ’97; B.S., business administration, ’99) welcomed the birth of his first child, a son named Adrien, on Nov. 8, 2012.

BARBARA DUFFEY (B.A., English, ’02) and her husband, Andrew Breitenbach, welcomed their son Theodore Duffey Breitenbach into the world on Aug. 22, 2013.

In Memoriam
NEAL F. AMSDEN (B.A., ’49, M.D., ’53) South Laguna, CA (6/12/2012) at age 84, board certified in internal medicine; moved to Laguna Beach in 1969 and remained in practice there until retiring in 1986; served as attending physician at South Coast Community Hospital and chief of staff on two occasions; also served on staff at Hoag Memorial Hospital and as attending physician at LAC-USC Medical Center.

EGBERT DUKE BUNIFF (M.A., Spanish, ’51) West Hills, CA (9/11/2012) at age 95; a veteran of WWII Battle of the Bulge, history and mathematics teacher, and accomplished artist and craftsman; joined Masonic Brotherhood at age 89, completed 33rd degree of the Scottish Rite.

STANLEY RUSSELL CALDWELL (B.A., history, ’62) Los Angeles, CA (11/3/2012) at age 72; worked as a history and government teacher for LAUSD at Manual Arts and Banning high schools.

CLAUDENE CHRISTIAN (B.A., social sciences and communication, ’93) Atlantic Ocean, off Cape Hatteras, NC (10/29/12) at age 42; was swept overboard when Hurricane Sandy engulfed the replica tall ship H.M.S. Bounty, on which she was serving as a crew member; was said to be a direct descendant of Fletcher Christian, who led the infamous 1789 mutiny on the Bounty; won Miss Teen Alaska in 1986 and Miss Alaska National Teen in 1987; was a member of Gamma Phi Beta sorority and USC’s Song Girls cheering squad; founded Collegiate Doll Company.

SHELLEY S. CROOK (B.A., sociology, ’73) Phoenix, AZ (2/5/2013) at age 62; attended Arcadia High School and was an active member of Kappa Kappa Gamma Sorority at USC.

In Memoriam
NEAL F. AMSDEN (B.A., ’49, M.D., ’53) South Laguna, CA (6/12/2012) at age 84, board certified in internal medicine; moved to Laguna Beach in 1969 and remained in practice there until retiring in 1986; served as attending physician at South Coast Community Hospital and chief of staff on two occasions; also served on staff at Hoag Memorial Hospital and as attending physician at LAC-USC Medical Center.

Rise (“Risa”) Carroll Poch Dittmar (B.A., psychology, ’65) Honolulu, HI (12/7/2013) at age 69, was a member of the Gamma Phi sorority; served on the board of directors of the Honolulu Advertising Federation, was active in Art Academy of Honolulu, Honolulu Symphony Guild and Friends of Hawaii Kai Public Library.

Lawrence Eber (“Bud”) Drumh (B.A., pre-law, ’30; LLB, ’32) Los Angeles, CA (2/21/2013) at age 104, was the oldest living California lawyer and judge (retired); active in Delta Chi fraternity at USC; practiced civil and commercial law in downtown L.A. until 1966, then appointed to the California Municipal Court, where
Brittany Berns ’08 has led an effort in Benin, Africa, to fund and construct a school in the village of Toucountouna. She’s just getting started.

When Brittany Berns (B.A., international relations, ’08) arrived as a Peace Corps volunteer in Toucountouna, Benin, in 2010 to teach English to seventh- and eighth-grade students, she quickly realized that the school was in desperate need of additional classrooms.

Instructors often had to teach their lessons outdoors. On occasion, Berns would have to teach at night because there weren’t enough classrooms available during the day to accommodate her 60 students.

Working in collaboration with the school’s leadership, Berns launched a fundraising campaign. The school pitched in to raise funds, and donations were also collected through the Peace Corps Partnership Program, which allows volunteers to post projects online to collect contributions. In all, the efforts raised $21,500 to construct three new classrooms — no small feat.

“That’s a large amount for such a rural community,” Berns said. “The community leaders were great partners and were fiercely committed to improving the school environment.”

Berns is also committed to helping young women in Toucountouna pursue an education. Many young women in the village are deterred from continuing their education because they lack funding or familial support. Berns initiated the Rising Stars scholarship program, which so far, has provided a year’s school tuition to 17 girls.

Working from her Brooklyn, N.Y., home, Berns oversees the program with help from a Benin-based supervisor. She established the program as a nongovernmental organization with the Beninese government and is now going through the steps to launch it as a nonprofit organization in the United States. —M.S.
THE POLITICAL THOUGHT OF FREDERICK DOUGLASS: In Pursuit of American Liberty NYU Press / Nicholas Robert Buccolera (Ph.D., political science, ’07) argues that beyond his role as an abolitionist, Douglass was a political thinker who provided deep insights into the challenge of achieving and maintaining the liberal promise of freedom.

WOMEN AS POLITICAL LEADERS: Studies in Gender and Governing Routledge / Michael Genovese (M.A., political science, ’75, Ph.D., political science, ’79) and coeditor Jane S. Steck-enrider provide a critical look at how women are defined as leaders based on gender and ask why America has not yet produced a female president. Also by Michael Genovese WATERGATE REMEMBERED: The Legacy for American Politics edited with Iwan Morgan Poilgrae Macmillan

A PRESIDENTIAL NATION: Causes, Consequences, and Cures Westview Press LEADERSHIP MATTERS: Paradoxes and Possibilities edited with Thomas Cronin Paradigm Publishers

CASTING NORMA JEANE The Woodbine Press / James Glaeg (James Cornelius Gloege) (B.A., comparative literature, ’60; M.A., cinema, ’68) recaptures the late summer of 1946 as a “pretty but plain” model and starlet steps into a role that will make her the most photographed, talked about, and written about woman of the 20th century. Marilyn Monroe.

THE SAUSAGE MAKER’S DAUGHTERS Bibliophile Press / A.G.S. Johnson (MPW, ’01) set this novel in the 1960s, taking readers on a wild ride through the past and present predicament of 24-year-old Kip Czermanski, who is being held in a jail cell in her Wisconsin hometown as she awaits a court appearance in connection with the death of her ex-lover, who also happened to be her brother-in-law.

A VARIORUM COMMENTARY ON THE POEMS OF JOHN MILTON: Volume 5, Part 8 (Paradise Lost, Books 11-12) Duquesne University Press / Jameela Laires (Ph.D., English, ’79) surveys all important and influential line-by-line commentary published between 1667 and 1770 on the impressive conclusion to Paradise Lost in books 11-12, challenging the longstanding idea that the last two books of Paradise Lost are inferior or unrelated to the rest of the epic.

THE INSCRUTABLE MR. ELIZABETH Spinsters Ink / Marlene Leach (MPW, ’10) weaves a thriller about a former spy trained in psychically controlled remote viewing who is on a quest to find a mysterious and disturbing female serial killer, with whom she forms an unlikely alliance as the two plot their escape.

THE SHAKESPEARE DRUG Kerrera House Press / K. Scot Macdonald’s (Ph.D., international relations, ’97) first novel is about a Los Angeles neurosurgeon who discovers a drug that allows her to write like Shakespeare but may also cause her to die.

THE INTERROGATOR’S NOTEBOOK Story Merchant / Martin Ott (MPW, ’97) uses his real-world experience as a former U.S. Army interrogator to create the character of Norman Kross, a master interrogator skilled at unlocking others’ secrets but blind to the truth of his relationship with his family and friends. Also by Martin Ott CAPTIVE C&R Press POET’S GUIDE TO AMERICA co-written by John F. Buckley Brooklyn Arts Press

THE LAST NIGHT A NOVEL King’s Men Press / Daniel Gardina (B.A., English and philosophy, ’05; MPW, ’07) tells the story of Alex, who wants to kill himself. His best friend, Ed, bargains for a week to change his mind.

My Imaginary Friend Was Too Cool To Hang Out With Me Aberdeen Bay / Charles Freericks’ (MPW, ’86) collection of true comedic stories about one boy’s path from “loserdom” to popularity offers a nostalgic glimpse into the 1970s and ’80s.

MCILVAIN (B.S., international relations, history, social science, ’91) deconstructs the “mafia mystique” that has dominated scholarly, political and legal discourse about organized crime.

ELDERS Hogarth / Creative Writing and Literature doctoral candidate Ryan McIlvain, who was born in Salt Lake City and left the Mormon Church in his mid-20s, tells the story of Elder McLeod and Elder Passos, two young missionaries in Brazil, each struggling with specific aspects of their faith and whose friendship is tested by the simmering tensions.
THE SKIN REGIME: Boot Camp for Beautiful Skin Verve / Dana Ramos (MPW, ’90) demystifies how to create a personalized skin care regime based on dermatologist recommendations.

SECRET SEX LIVES: A Year on the Fringes of American Sexuality Berkeley Books / Suzy Spencer (MBA, ’81; MPW, ’87) has penned an intimate account of a journalist who sets out to look behind closed doors but ends up on a personal, revealing journey to find herself.

MICHAEL CONNELLY: A Reader’s Guide Anaphora Literary Press / Stan Schatt (Ph.D., English, ’70) offers the definitive guide to the best-selling novelist, discussing his novels and short stories, articles he published as a crime reporter and even movie treatments of his novels.

PALOISTA: Gain Energy, Get Lean, and Feel Fabulous with the Diet You Were Born to Eat Touchstone / Nell (Bucken) Stephenson (B.S., exercise science, ’97) explains how to incorporate the Paleo diet into day-to-day life by sticking to the foods that human beings originally ate, and excluding those developed later.

GRAFFITI SIGNATURES Main Street Rag / Literature and creative writing doctoral candidate Cody Todd explores the world through the lens of graffiti and urban blight — the impermanence and provocative messages of graffiti in an ever-changing and ever-gentrifying urban landscape.

DRIVING THE BIRDS Shadwell Publishing / Russell Traughber (B.A., economics, ’82) captures the spirit and courage of Jabonkah Sackey, a bush girl who grew up in mid-1950s Liberia and overcame cruelty, oppression and a lifetime of hardship to achieve her dreams and finally find freedom in America.

DORNSIFE FAMILY Reconstructing Love

How far would you go for love?

For Sam, the protagonist in Leonard Pitt Jr.’s (B.A., English, ’77) sweeping historical novel, Freeman (Agate Bolden, 2012), the journey is nearly 1,000 miles from urban Philadelphia to rural Mississippi. But the course of true love is not measured in time or distance.

It’s 1865. The “War Between the States” is over, President Abraham Lincoln has been assassinated, and former slave Sam Freeman sets off on foot to find and reconnect with the woman he’d been forced to leave behind 15 years earlier.

Now a self-educated employee of the Philadelphia Free Library and former Union soldier, Sam soon realizes that many of the horrors of slavery will not end with the Reconstruction period.

Sam is beaten and stomped within an inch of his life. He loses his arm along the way and is forced to beg for sustenance — all for the sake of reuniting with the woman he would have made his bride had slaves been allowed to marry. As Sam winds his way South, his love, Tilda, is being forced at gunpoint to accompany her former owner to find a haven where he won’t have to “kowtow to Yankee domination.”

Pitts, a Pulitzer Prize-winning columnist and commentator, conceived the idea for Freeman in the 1980s, inspired by Leon F. Litwack’s book Been in the Storm So Long.

“What tugged at my heart,” Pitts has said, “was all the things the slaves did to reconstruct their families, which had been torn apart by slavery. This was 1865; no computers, no telephones, no records of any use. Against all these odds, these people go through Herculean efforts to get back to brothers, sisters, fathers, sons, loved ones.” — D.K.

TELL US ABOUT YOUR BOOK Write to USC Dornsife Magazine, Citigroup Center 8206, 41st Floor, Los Angeles, CA 90089-8206 or magazine@dornsife.usc.edu
[Bio]diversity

When it comes to their son’s prospects for success in the nebulous field of “science,” the parents of Everett Salas ’08 are finally resting easy. Everardo and Rosamaria, who came to the United States from Mexico, wanted their son to study medicine or business.

But the first-generation college student eventually found his passion and pursued a Ph.D. in geology in USC Dornsife. He recently landed a plum gig at Photon Systems, a small, cutting-edge scientific research company in Covina, Calif. The company develops hand-held, laser-based sensors for detecting and classifying explosives, and chemical and biological threats.

During his years as a graduate student, Salas was a key figure in helping promote diversity in the sciences through the national Society for Advancement of Chicanos and Native Americans in Science (SACNAS), helping to establish a chapter at USC.

Now established in the “real world,” he has yet to see a full manifestation of his former efforts. Salas, who grew up in southeast Los Angeles, is the only Latino at his company. Salas attributes this to the fact that relatively few Latinos with advanced degrees apply.

“Kids who grew up in an inner city — I don’t see that a lot,” he said. “My sense is that for those hiring, there’s an awareness of diversity but it’s not a priority.”

The way to remedy this situation is to increase the number of Latino candidates with Ph.D.s, which is what SACNAS does through mentorship and networking, he said.

While there is clearly more work to be done, the number of underrepresented graduate students in the sciences at USC has more than tripled since Salas’ graduation in 2008.

Salas’ job at Photon Systems came as a result of connections he forged while conducting collaborative research as a postdoctoral researcher at the Jet Propulsion Laboratory (JPL), a federally funded NASA research center. His postdoc work at JPL was the result of connections he made working in the laboratory of Ken Nealson of earth and biological sciences in USC Dornsife. While working in Nealson’s lab, Salas conducted research at JPL.

“My connections at USC opened many doors.” —L.P.
WELCOMED RETURN

As senior associate dean for advancement, Neil Macready ’81 plays a key role in the university and USC Dornsife’s fundraising efforts.

Neil Macready began his appointment as USC Dornsife’s senior associate dean for advancement in December 2012.

Steve Kay, dean of USC Dornsife, appointed Neil Macready senior associate dean for advancement in December 2012. Macready is playing a key role in USC Dornsife’s $750 million initiative, which launched in March 2013 as part of The Campaign for the University of Southern California.

Macready develops, implements and evaluates a comprehensive fundraising program for USC Dornsife that generates support for faculty and research endowments, student scholarships, academic priorities and capital projects.

“With more than 30 departments and programs, and dozens of research centers and institutes, USC Dornsife requires a broad range of fundraising skills and experience,” Kay said. “As a USC Dornsife alumnus and a 27-year advancement professional, Neil is perfectly suited to lead our Office of Advancement toward exciting new heights.”

Macready was previously vice president for university relations at the University of Redlands. From 1995 to 1999, he was director of development in USC Dornsife, where he assisted in the establishment of the USC Wrigley Institute for Environmental Studies and USC Dornsife Board of Councilors.

“It is such an honor to be asked to return to USC and work with Dean Kay and a talented advancement team to move forward USC Dornsife’s mission,” Macready said. “The energy and excitement within USC Dornsife, and throughout the entire university, has never been higher.”

Macready holds bachelor’s degrees in political science and geography from USC Dornsife and a master’s degree in sport management from the University of Massachusetts, Amherst. As a walk-on athlete at USC, he was elected captain of the men’s swim team his senior year and was a world-ranked swimmer in 1980.

Macready and his wife, Anita West, have two children: a daughter, Margo, a sophomore at the University of Redlands, and a son, Shea, a sophomore in high school.
ROBERT W. STUDER (Ph.D., political science, ’75) Thousand Oaks, CA (8/24/12) at age 97; graduated from United States Military Academy at West Point in 1939, served under Gen. MacArthur in the Philippines as a signal officer; awarded the silver star for gallantry in action; was a POW in Japan and the Philippines; retired from military in 1968; remained active in volunteer service and the retired military community.

STEVEN H. SWANDER (B.A., philosophy, ’73) Fort Worth, TX (11/24/2012) at age 61; was admitted to the bars of the United States Supreme Court, U.S. Fifth Circuit Court of Appeals, U.S. Eleventh Circuit Court of Appeals and the Northern District of Texas; served as a board-certified criminal law attorney in Texas.

DORIS CHIN TOM (B.A., chemistry, ’48; M.S., chemistry, ’50) Los Angeles, CA (3/27/2013) at age 84; served as chemist at Lawrence Livermore Laboratory (Berkeley, CA) then with the U.S. Navy in Pasadena; taught chemistry at John Marshall High School in Los Angeles from 1972 to 1993, when she retired as science department chair.

MIKHAIL VINAYKIN (Ph.D. student in chemistry) Los Angeles, CA (9/25/12) at age 24; Russian born; received undergraduate physics degree from St. Petersburg State University; began graduate chemistry program at USC in 2009; was recognized by international scientific community for his research on ultra-fast nonlinear spectroscopy.

DAVID PRIESTLEY WAINWRIGHT (Ph.D., French, ’85) Vacaville, CA (9/15/2012) at age 76; a native of Macclesfield, England; attended Oxford University; served in teaching, ministerial and administrative posts on Ambassador University’s British and American campuses from 1960 to 1996; chaired the Department of Foreign Languages and Literatures on the AU Texas campus before retiring in 1996.

JOHN WILSON WALLACE (M.A., philosophy, ’53) Monrovia, CA (3/22/10) at age 86; a native of Butler, PA; worked as a marketing representative in the insurance business for many years.

MARY VIDOS WELSH (B.A., economics, ’54) Los Angeles, CA (7/20/12) at age 80; was a member of Kappa Alpha Theta and the recipient of Phi Beta Kappa Key; was active in the Juniors of the Social Service Auxiliary; elected president of the USC Alumni Coordinating Council and the USC Trojan League of Los Angeles; served as a member of the USC Board of Governors; was honored with USC Alumni Service Award for her dedicated service to USC.

LAUREN A. WRIGHT (B.A., geology and physics, ’40; M.S., geology, ’41) State College, PA (2/6/2013) at age 94; served in the U.S. Army Air Forces during WWII as an arctic survival trainer; taught geology at Penn State for 24 years and was a recognized expert on geology of Death Valley.

JOHN WESLEY YALE (B.A., botany, ’49; M.S., botany, ’50) Porterville, CA (11/10/2012) at age 88; served in U.S. Navy at end of WWII; an interest in natural plant products led to the creation of a product from yucca used to promote fertilization, control odor and benefit livestock; started several small businesses to manufacture and sell products, the last being Cellu-Con in Strathmore, CA.

RYD ARTHUR YBARRA (B.A., geology, ’53) Riverside, CA (9/29/12) at age 88; a veteran of World War II, served as commander of the Veteran’s American Legion in Mesa, AZ.

JERRY BUSS, the real estate mogul who enjoyed extraordinary NBA success as the longtime Lakers owner, died Feb. 18, 2013, at age 80.

Buss earned an M.S. and doctorate in physical chemistry from USC Dornsife in 1957 at age 24 and then taught in the chemistry department. He was a lifelong USC supporter. An inaugural member of the USC Dornsife Board of Councilors, Buss gave $7.5 million to USC Dornsife for two endowed chairs honoring his mentors, former chemistry professors Sidney Benson and David Dows.

After graduating from USC, Buss worked briefly in the aerospace industry before he and a colleague began investing in real estate. He amassed a fortune and turned his attention to sports, buying the Lakers, the Forum, the NHL Kings and a large ranch for $67 million in 1979.

Under his legendary stewardship, the Lakers won 10 championships in three-plus decades.

JERRY BUSS PHOTO BY LUIS SIMCO/LOS ANGELES TIMES; KOENKER PHOTO COURTESY OF USC UNIVERSITY ARCHIVES; VAN CLEAVE PHOTO COURTESY OF CYNTHIA VAN CLEAVE; WARSCHAW PHOTO BY USC DORMSIFE OFFICE OF COMMUNICATIONS

WILLIAM VAN CLEAVE, former senior adviser to President Ronald Reagan, the United States Department of Defense, Department of State, and former professor of international relations in USC Dornsife, died at his home in Idyllwild, Calif., on March 15, 2013. He was 77.

Professor of international relations and director of the Strategic Studies Program in USC Dornsife from 1967 to 1987, Van Cleave had vast experience in, and influence upon, U.S. defense policy.

He served in numerous policy-advisory positions. For example, he was a delegate to the U.S.-Soviet Strategic Arms Limitation Talks (SALT) and a member of the “Team B” review of intelligence estimates on the Soviet military, both in the 1970s. From 1979 to 1981, he was senior adviser to Reagan and director of the defense transition team for Reagan’s new administration.

CARMEN H. WARSCHAW, a USC honorary trustee, alumna, leading philanthropist and committed community activist, died Nov. 6, 2012, in Los Angeles, Calif. She was 95.

Warschaw was a close friend and loyal supporter of Jesse M. Unruh, former California State Assembly speaker and state treasurer. Warschaw and her late husband, Louis, helped to create the Jesse M. Unruh Institute of Politics, housed in USC Dornsife.

In 2008, Warschaw pledged $3 million for the endowment of the Carmen H. and Louis Warschaw Chair in Practical Politics in USC Dornsife. Ten years earlier, the Warschaws helped found USC Dornsife’s Casden Institute for the Study of the Jewish Role in American Life, the first academic research center of its kind.

The following year, in 1999, the couple established the Carmen and Louis Warschaw Distinguished Lecture Series, which attracts prominent elected officials to speak to students about how their Jewish heritage has influenced their political life.
Moshe Lazar, professor emeritus of comparative literature and former chair, died on Dec. 13, 2012, at his home in Los Angeles, Calif. He was 84.

Described by those who knew him best as “a warrior scholar,” Lazar devoted his life to his “intellectual rescue mission” saving Sephardic literature and culture, including rare medieval texts in Judeo-Spanish (Ladino) — the spoken and written language developed by Spanish Jews before their expulsion from Spain in 1492.

Lazar counted among his areas of expertise courtly love, Sephardic and Hebrew literature, works in Ladino, Provençal literature, Spanish and Judeo-Spanish biblical texts, Hebrew poetry, medieval and modern drama, the paintings of Hieronymus Bosch, and at least a dozen other research topics. Before he died, he was working on a major study of 1,800 years of anti-Semitic propaganda imagery.

William Thalmann, professor and chair of the Department of Comparative Literature, remembers Lazar: “A chance hallway conversation, on whatever Moshe happened to be thinking about, was very often an education in itself,” Thalmann said. “He was devoted to his students, and they to him. The notion of ‘office hours’ meant little in his case; his door was always open, no matter how busy he was, he always had time for his students.”
IN MY OPINION

My daydreams about a rich trove of recordings persisted. I imagined Guthrie making one of those mammoth 16-inch radio transcription disc recordings that were common for radio performers before and during World War II. I pictured it sitting undiscovered in an attic somewhere. Glendale? The Westside? East L.A.?

Then, doubt set in. There was evidence that Guthrie wrote columns in at least three separate political newspapers, but it seemed likely that, if he had recorded something here, it would have surfaced by then.

Still I pressed on. Professor Ross suggested I check out the Southern California Library for Social Studies and Research, not too far from campus, which holds a rich archive of material related to progressive politics in L.A. I contacted the library, viewed some of its materials, but didn’t uncover anything solid. But through a librarian there, I met Harry Hay.

The one-time labor activist had known Guthrie and had later gone on to help found a major and early gay rights organization. I interviewed Hay at his home in West Hollywood. He had some recollection of a friendship among Guthrie, actor Will Geer and himself, but his memories were fuzzy. No dice, I thought. And then I threw out the question:

“Do you know if Woody Guthrie ever recorded anything while he was here in Los Angeles?” Hay drew a deep breath.

“Yes,” he said. Guthrie had made a set of demonstration recordings on two 10-inch discs while in L.A.

Hay had donated two discs among a larger of collection of commercial 78-rpm phonographs to the Southern California Library for Social Studies and Research some years ago.

I made a beeline to South Central and spent a few hours looking through stacks of dusty records. Lo and behold, I found the recordings. The library staff was unaware that Guthrie’s music had been originally donated with Hay’s record collection. With this new discovery, the library was ready to preserve the two lacquer-aluminum discs in a special archive.

The recordings by Guthrie were made in L.A., most likely in 1939. The four songs on these two discs — Skid Row Serenade, Big City Ways, Ain’t Got No Home and Do-Re-Mi — have proved to be Guthrie’s oldest known recordings.

This past summer, the four tracks were released during what would have been Guthrie’s 100th birthday as part of a box set collection of Guthrie material, Woody at 100: The Centennial Collection (Smithsonian Folkways). Not only did that collection receive a Grammy nomination for Best Historical Album and win a Grammy for Best Packaging, but the set and the four early recordings I found were discussed on numerous national and regional media outlets ranging from National Public Radio to the Los Angeles Times.

They were not the huge discs of entire radio programs I envisioned sitting mysteriously in some grand attic. But, these smaller and nonetheless rare Guthrie recordings were rediscovered only after I used my historical imagination.


Peter La Chapelle '02 takes a cue from Woody Guthrie and finds his own way to persevere.

Most historians start off not with a rich vein of sources, but with some basic information and a hunch. That is where historical imagination makes its entrance.

R.G. Collingwood’s turn of phrase “historical imagination” means not fabricating, not exaggerating, but thinking creatively through what a historical figure or group might have thought or done.

In order to form a hypothesis about any event, we must first imagine what might have happened and what kinds of sources were left behind as evidence. In a way, my own recent 15 minutes of fame were a product of just such a flight of historical fancy.

It began when I was a Ph.D. student in USC Dornsife in the late 1990s taking Professor of History Steven Ross’ seminar. I was formulating my plan for dissertation research and had decided that it would include examining Woody Guthrie’s time in Los Angeles back in the 1930s. I wondered whether the political folksinger had left behind a phonograph or two while in L.A. I knew Guthrie had had a short-lived radio program and that he had most likely become politically active while in L.A. Could Guthrie have left something behind?

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Big City Ways

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