The Waves

With the arrival of new faculty, a natural sea change is underway. One cluster of interest is forming among 20th century scholars who deal with poetry and poetics. Another cluster of excellence is emerging in the “Long Early Modern” period that spans the Middle Ages to the 18th century, fueled by student interest in upper-division seminars. Feminist literary and cultural approaches now exist in tandem with faculty working on groundbreaking, gender-related issues. The traditionally strong California’s New Face

PAGE 8

Marvels in Marble

PAGE 10

Genetics of the Sea

PAGE 13

Seeing the Spoken Word

PAGE 14

Questions of Meaning

PAGE 17

Summer/May 2004

A New Approach to Aging

To stay ahead of problems related to the escalating growth in America’s elderly population, and the emergence of many new issues for aging seniors, a multi-disciplinary research institute has been formed to integrate research in a number of scientific and sociological domains.

The new institute is a joint venture of faculty in USC College and the USC School of Gerontology. Professors Caleb Finch and Eileen Crimmins will direct the new institute, which will expand and coordinate aging research at USC. The program will focus initially on three areas of research related to aging:

- laboratory studies of gene systems and the integrated biology of aging;
- socio-demographic-genetic studies of health and aging;
- engineering the home and environment for independent living by the elderly.

Finch and Crimmins observe that along with research and training in the School of Gerontology, USC already has aging as a focus of graduate programs in the College departments of biological sciences, psychology and sociology.

“We will also expand the institute’s programs to embrace engineering, health sciences and, potentially, economics, journalism, architecture, business and law,” says Finch.

Finch, a University Professor who is the ARCO/Kieschnick Chair in the Neurobiology of Aging, and Crimmins, the Edna Jones Professor of Gerontology, exemplify the principles of working across traditional lines between camps. It’s an exciting time.”
English, anew

For some, the image of an English department is one of staid tradition, never changing. At USC College, our English department is breaking the mold. We have renowned scholars of all literary periods, and they are bringing a fresh, invigorating approach to their work.

If you were a student in USC College as recently as just a few years ago, you might not recognize the place where you spent so many delightful classroom hours and acquired a deep appreciation for literature.

All of what you experienced then is still here—but also much, much more. We can start with the faculty. In the past 18 months, we have recruited seven new professors for the department, four of them senior scholars. These more offers to our outstanding senior faculty are in progress. All of these recruits will be teaching USC’s increasingly gifted undergraduates as well as pursuing their research interests here. So there is a palpable sense of excitement and a growing recognition from our academic peers that we are on the move.

As articles in this English-themed issue of USC College Magazine point out, the department is transforming itself. That transformation is illustrative of the renaissance that has shaped the entire College in recent times. Another example is our School of Philosophy, whose rising fortunes are also chronicled in this issue.

In English, the makeover begins with the new faculty, but encompasses new directions, new genres, even new paint and carpets, with a summer 2004 facelift scheduled for Taper Hall of Humanities!

Nearly every Trojan passes through our English department at one time or another. Although it boasts one of the largest numbers of majors, the department also serves countless others through its extensive General Education offerings. Future doctors, lawyers and engineers get g roomed here before starting their professional education.

Mastering the art of the written word—critiquing it, talking about it, writing about it—these essential intellectual skills are often mastered under the tutelage of an English professor. And we have some of the best in the world!

The department now numbers 33 faculty, and the new ones fit the new style of the senior faculty recruitment initiative: multidisciplinary, leaders in emerging fields.

The focus on “early modern” studies (the period roughly from 1400 to 1800) is booming in response to student demands, and has been invigorated by a research institute established jointly with the Huntington Library; a cluster of 20th century poets has arisen; American studies, British and French literature—all are caught up in the wave of a department on the rise.

And English isn’t just books any longer. It’s film, performance art and other media.

Traditional English departments have been too constrained by their organization into literary periods, more or less century by century. But as Judith Halberstam of the department observes, “Knowledge doesn’t come parcelled up in periods.” At USC College, we are forging new scholarly directions and pursuing emerging thematic research that encompasses many time frames.

In case you wondered, yes, our Exceptional Writing unit is still as competitive as ever, with renowned authors such as recent National Book Award nominees T.C. Boyle and Carol Muske-Dukes, as well as David St. John, Percival Everett and Aimee Bender.

We will always nourish our roots in traditional scholarship, where we have great strengths. But our vision embraces an exciting future.

Joseph Aoun
Dean of USC College
Anna H. Bing Professor
Deterring Terror

College leads discussion on the political economy of terrorism

As a USC College economist, Todd Sandler studies the cyclical pattern of terrorism.

A chart in his office reveals the number of transnational terrorism incidents—and associated deaths—that have targeted U.S. interests since 1968.

The outliers—spikes caused by particularly devastating events such as 9/11—command his attention.

"Since the end of the Cold War, the number of terrorism incidents are down, but the incidents are more lethal," he says.

It is these patterns that fascinate—and disturb—scholars like Sandler.

Since the four hijackings on 9/11, international terrorism has been at the forefront of the public consciousness. Why and how terrorists strike is a question that scholars of mathematics, economics, international relations and other disciplines are trying to answer.

For three days in April, top-scholars from around the world converged at USC College to participate in a high-level academic conference to discuss the political economy of international terrorism.

College economists, policy analysts and political scientists joined peers from Columbia, Yale, the Wharton School of Business, University of Patras in Greece and other places, to discuss how resources can be better allocated to deter terrorism, what motivates terrorists and what nations states can do to stop or at least ameliorate such violence.

The event was sponsored by the Center for International Studies (CIS) at USC and is emblematic of the interdisciplinary nature of College research. At the conference scholars presented papers that will be published in a special issue of *Journal of Conflict Resolution* next year. Some of the papers analyzed how national security has changed since 9/11 and whether democracy promotes transnational terrorism. Other papers sought to explain cycles of terrorist violence and determinants of terrorist activity by modeling attack occurrences across space and time.

"This was the first academic conference on terrorism research in USC College’s history," says Peter Rosendorff, Director of CIS, who organized the conference along with Sandler. "It shows how the College is taking the lead on emerging issues that directly impact society."

Rosendorff is an associate professor of international relations and economics in the College.

Sandler, holder of the Robert R. and Katheryn A. Dockson Chair in Economics and International Relations, has been studying the dynamics of international terrorism for decades.

"Terrorism is a very complex topic. To make a valuable contribution to the field, it is important to include economic modelers and scholars who conduct empirical research," says Sandler, who recently received a prestigious award for his research from the National Academy of Sciences.

"From hostage negotiations to the installation of technological barriers, such as metal detectors and embassy fortification, economics models can provide many policy insights."

"Since 1968, forty percent of all incidents have been against the U.S., but very few of these occurred on U.S. soil," says Sandler. "I until 2001, far more Americans were killed by lightning in any year than were killed by all forms of international terrorism."

But it’s the outliers on his chart, like 9/11, that Sandler strives to better understand.

"Creating a high powered intellectual environment that brought together top people in this field, put all of us a step closer to making policy recommendations to governments and other groups about how to best deal with and deter transnational terrorism," says Rosendorff. —VS

Aging Center

continued from page 1

Academic boundaries. Between them they have joint appointments and research programs that span many disciplines in College departments—anthropology, biological sciences, psychology, sociology—and in the USC Keck School of Medicine’s departments of physiology and neurology.

"Health and mental capacity at later ages derive from long-term interactions, from the molecular to the societal. For example, lifespan after age 75 is more strongly influenced by social interactions than by family genes. On the other hand, the egg we come from was formed in our mother’s ovary before she was born. A comprehensive view of aging requires that we integrate our research not only across disciplines, but across generations," says Finch.

"The perspective that aging is very complex is held across USC," says Joseph Aoun, dean of USC College and Anna H. Bing Professor.

"This new institute is a model for interdisciplinary studies. It has the potential to bring together diverse talents from across the entire spectrum of the university."

Finch notes that there are numerous major research programs throughout USC, as well as in other area institutions. "We will draw on all of these programs," he says.

An immediate goal of the institute will be to expand the number of aging-related research and training grants in fields such as cognitive sciences, demography, genomics, integrative biology, robotics and neural prostheses. "It is likely," Finch says, "that increased funding from federal and industry sources will be available for health research and training that targets the aging population, whether for cancer, dementia or vascular disease."

To launch the new institute, faculty members for an Advisory Committee on Aging will be appointed to initiate faculty recruitment and coordinate gerontology research and training across USC.

Both junior and senior faculty will be recruited with joint appointments in the School of Gerontology and USC College. New degree programs are under consideration, including some targeted at professionals planning careers in biotechnology and pharmaceutical industries.

—Alfred Kildow

v o l u m e 5 n u m b e r 2

Summer/May 2004

USC College of Letters, Arts & Sciences
The “New American Studies”

When I was an undergrad studying American literature,” says John Carlos Rowe, a professor of English and American Studies, “I studied what was within the borders of the United States, what was distinct about being ‘American.’ It was a very exclusive model.” But after the Sixties and Seventies—with civil rights and feminism, Chicano and Asian American Studies—“the older model of American literature no longer represented us,” Rowe says. “It was excluding a huge number of valid forms of expression.” Rowe is one of the nation’s foremost Americanists. He is widely regarded as helping spearhead the “new American studies,” as well as the rise of international American studies programs.

His fall arrival at USC College will cement a traditionally strong Americanist program in the English department. Of 33 professors, more than one-third specialize in U.S. literary studies, six of whom have joint appointments with the Program in American Studies and Ethnicity (PASE), and five others who are considered “affiliated” faculty.

Rowe discusses the change that has taken place in the study of American literature. What was once the history of ideas—e.g., how transcendentalism gave way to realism—now examines literature as an index of social and historical change.

He is teaching Harriet Beecher Stowe’s Dred, a novel about a revolutionary African-American who flees slavery and sets up a marooned community in a swamp. "Why not Uncle Tom’s Cabin?" Rowe asks the obvious question. "Because Dred is about resisting and overturning slavery."

He claims to look not necessarily at one who gives access to different cultural questions—like racism, slavery, women’s rights or civil war. His fall arrival at USC College will cement a traditionally strong Americanist program in the English department. Of 33 professors, more than one-third specialize in U.S. literary studies, six of whom have joint appointments with the Program in American Studies and Ethnicity (PASE), and five others who are considered “affiliated” faculty.

Rowe discusses the change that has taken place in the study of American literature. What was once the history of ideas—e.g., how transcendentalism gave way to realism—now examines literature as an index of social and historical change.

He is teaching Harriet Beecher Stowe’s Dred, a novel about a revolutionary African-American who flees slavery and sets up a marooned community in a swamp. "Why not Uncle Tom’s Cabin?" Rowe asks the obvious question. "Because Dred is about resisting and overturning slavery."

He claims to look not necessarily at one who gives access to different cultural questions—like racism, slavery, women’s rights or civil war. His fall arrival at USC College will cement a traditionally strong Americanist program in the English department. Of 33 professors, more than one-third specialize in U.S. literary studies, six of whom have joint appointments with the Program in American Studies and Ethnicity (PASE), and five others who are considered “affiliated” faculty.

Regional and Historical Approaches

Judith Jackson Fossett characterizes herself as an African Americanist. "I am primarily committed to the study of the literature, history, culture and politics of people of African descent in the Americas." Fossett is an associate professor of English and PASE, as well as the Director of African American Studies.

But she also sees herself as an Americanist whose work on the 19th century and the American South sheds light on both regional and historical approaches to American literary studies. As a teacher, she is motivated to show students the relevance of key...
The Metamorphosis

at the brink of the 20th century.”

When you’re dealing with something like colonialism, it doesn’t just stop

doesn’t come parceled up in periods.

Halberstam argues, “Knowledge

explains as reading “texts” for their

cultural, aesthetic and social mean-
ing. “Interpretation,” which he

logues are all forms of literary

expression. “Interpretation,” which he

knowledge and learning,” Boone muses. “English, because of its

interdisciplinary bent, is a great site

for such exploration. Reading a book,

seeing a film, we enter unknown ter-

we never have gone.”

19th century issues—race, slavery and

freedom, the relationship of the colo-
nizer to the indigenous, questions

of immigration and the expansion of the

frontier.

Regional American literary studies is also a strong component of the pro-

gram. Associate Professor Bill

Handley teaches courses on the liter-

ature of the American West. His

California course begins in 1854 with the

first novel written by a Native

American (and the first California

novel), John Rollin Ridge’s The Life

and Adventures of Joaquín Murieta, the

Celebrated California Bandit and ends with Anna Deavere Smith’s Twilight:

Los Angeles, 1992, which dramatizes the Rodney King riots.

Similarly, Associate Professor Tim

Gustafson offers popular courses on Angelino and southern California

literature.

English departments into specialized

periods, centuries and genres, Halberstam argues, “Knowledge

doesn’t come parceled up in periods. When you’re dealing with something like colonialism, it doesn’t just stop at the brink of the 20th century.”

Boone estimates that up to one-

third of the department uses visual

culture, sound or performance in their courses. Asked how such media fall

under the rubric of English, Boone

responds that film, lyrics and mon-

ologues are all forms of literary

expression. “Interpretation,” which he

explains as reading “texts” for their
cultural, aesthetic and social mean-
ings, “is precisely what we’ve been trained to do as literary scholars.”

The Metamorphosis

Another part of the departmental

transformation is a complete revision

of the undergraduate program. The

current system of majors has been

simplified to two tracks: literature and creative writing. The department isn’t becoming more stringent; it is becoming more deliberate in its offerings.

With more flexible requirements, the faculty is freer to design their courses and the students have a wider range in their course options. The result will be smaller classes, a variety of more interesting classes—such as single-author seminars—and co-
taught lectures.

“The most exciting thing about

USC College is its openness to new visions of knowledge and learning,” Boone muses. “English, because of its interdisciplinary bent, is a great site for such exploration. Reading a book, seeing a film, we enter unknown ter-

rain, other minds, new spaces, diverse realities—all of which push us in directions we might otherwise never have gone.”

“Treaty”}

National American

literature.

The Here and Now

Department Chair Joe Boone

notes a postcolonial cluster within the Americanists. Associate Professor

Viet Nguyen is in Saigon completing

race from the Irish perspective. Says Assistant Professor Cynthia Young, “We’re in a moment of hyper-transnationalism. Patterns of migration and global trade affect

us. There are all kinds of shifts in political power. People, ideas, commodities, cultural practices can all move at lightning speed.”

Along with the rest of the depart-

ment, the Americanists are using pop culture and other media in their

examination of American literary his-
tory. In this fall’s American literature

survey, Professor David Román will

use the music of Rodgers and

Hammerstein to study America in

the 1920s and 1930s. Rowe sees no

conflict in studying “I Love Lucy”

alongside his critical analyses of

Henry James.

Román credits the English depart-

ment for its strength in opening up

the curriculum to new, alternative,

and even oppositional voices to tradi-
tional literary history. But he stresses the importance of having knowledge in the history of American literature.

American literary studies must

address the changing face of

America, says Rowe. “If we do not respond to changing social and cul-
tural circumstance, then we’re not fulfilling our responsibilities as teach-
ers and scholars.”

True Fiction

• When USC opened its doors in 1880 to 53 students and 10 teachers, “English” and “Literary” were two of three courses offered in the academic department. (The other was “Classical.”)

• Minnie C. Miltime was USC’s first valedictorian in 1884. She was also the first graduate of the Athena Literary Society, one of the earliest student organi-
zations on campus.

• Over half of the undergraduate majors in the English department today specialize in Creative Writing.

• USC College was the only school nationwide to boast two National Book Award nominees in 2003, T.C. Boyle and Carol Muske-Dukes, respectively in fiction and poetry.
The Mighty Pen

Creative writing faculty lead nationally distinguished program

It’s the literary version of bringing lambs to slaughter. In a Taper Hall classroom, eight creative writing students sit in a semi-circle and critique a piece of writing—usually a poem, short story or chapter of a novel—by discussing its strengths and weaknesses. The author silently takes notes and squirms. Whose point of view is this? Is the dialogue believable? Are the transitions seamless? Does the cadence work? And the penultimate question: Is this interesting enough to read on?

Despite its seeming masochism, hundreds of English majors at the College are taking creative writing workshops. Fifty-nine percent of undergraduate English majors are specializing in creative writing, nearly three times as many as the number two track, British Literature. Applications are up this year for the fiercely competitive Ph.D. program: ninety aspirants submitted their writing samples, transcripts and test scores in early January for a mere four open slots—two in fiction and two in poetry.

Part of the draw is undoubtedly the faculty. There are five full-time professors: Aimee Bender, T.C. Boyle and Percival Everett in fiction, and Carol Muske-Dukes and David St. John in poetry. All teach undergraduate and graduate workshops, while consistently producing their own highly-regarded work. “We’re fortunate to have such visible and prolific writers in this program,” says Everett, who has three books forthcoming in 2004. “Not a year has gone by where one of us hasn’t had a book coming out.”

In a Los Angeles Times review, the 1995 U.S. poet laureate Robert Haas called St. John’s new novella The Face “not only gorgeous, it is go-for-broke gorgeous.”

Both Muske-Dukes and Boyle were nominated for the National Book Award in 2003, in poetry and fiction respectively, making USC College the only school to boast two nominees. “We’re fortunate to have such visible and prolific writers in this program,” says Everett, who has three books forthcoming in 2004. “Not a year has gone by where one of us hasn’t had a book coming out.”

In a Los Angeles Times review, the 1995 U.S. poet laureate Robert Haas called St. John’s new novella The Face “not only gorgeous, it is go-for-broke gorgeous.”

Both Muske-Dukes and Boyle were nominated for the National Book Award in 2003, in poetry and fiction respectively, making USC College the only school to boast two nominees. “Not a year has gone by where one of us hasn’t had a book coming out.”

Students claim they want to develop their imaginative muscle. “Everyone wants to create,” shrugs Zach Urbina, a senior Creative Writing major. He waxes thoughtfully on “creating something that would outshine some of the people we’re assigned to read.”

T.C. Boyle has taught workshops since 1978, when he was hired as the first creative writing teacher at USC College. He considers himself to be a “coach” for students at a “conservatory,” and believes that students have a talent that is trained in class. “I don’t want to impress any particular aesthetic value on them,” he adds, “other than that we want them to make the best literature they can make.”

“It’s hard to resist,” says Bender, on choosing creative writing as a major. (She herself received a B.A. and M.F.A. in creative writing). “As an undergraduate, students are required to take in so much information. And then to have this creative outlet, where they’re so invested in critiquing and writing. The level of discussion is high.”

In undergraduate workshops, there are serious reading requirements in literature. The faculty believe they have an important obligation to have the students read through the centuries in order to have a true grasp of literature and poetry. Muske-Dukes, founder of the Ph.D. program, calls literature a conversation. “And when students begin to read and write seriously,” she notes, “they enter into that conversation.”

It is in this way that creative writing at the College folds into the department itself. For many of the Ph.D. candidates, this commitment to both critical and creative expertise was a major draw to the USC program, as it brightens career prospects for the future. Bridget Hoida, a third-year doctoral student, is working on a novel and a critical dissertation on the ranch novel in California literature. “The glory of the program is that I get to do both,” Hoida says. “The ultimate goal is for both my novel and critical work to be under contract when I finish the program.”

With the disproportionate numbers of creative writing students to faculty, the creative writing program is growing in conjunction with the expansion of the English department. Both a senior hire in fiction and a junior hire in poetry are currently under consideration.

Boyle considers this development. “Literary talent is what draws people to study English,” he says. “I think it’s great that universities are allowing them to pursue it for themselves. Just as they have done with music and art, people can now study writing with the masters.”

—Katherine Yungmee Kim

One-on-One Writing Help

USC College’s Master of Professional Writing Program (MPW) is offering individual consultations for professionals who are interested in exploring their writing talent. Called “Directed Research,” this course provides one-on-one editorial meetings with a member of the MPW faculty. Units can be used towards the Master’s Degree, but professionals not seeking a degree are welcome to enroll in the class.

Founded in 1971, the MPW was the first multidisciplinary writing program in the nation. Currently, the MPW offers concentrations in fiction, teleplay, screenplay, poetry and non-fiction.

For more information visit: http://www.usc.edu/legit/US/MPW/
Scholars tap innovative research methods to plumb archives

Students can access online 24-hours a day. He highlights a particular text located at Christ Church, a college at the University of Oxford, whose archives are notoriously difficult to enter.

“This class simply could not have been done before,” Green enthused. “It’s part database, part electronic amalgam of hundreds of archives. You can visit 15 archives in a day!”

His students comment on their hands-on work with archival material. “This is the first time I’ve learned to look through a mess of things and make sense of it,” says senior Adam Currier, a College double major in English and sociology.

“In other courses where we study out of anthologies, the pieces are all tied together. Here, I am making my own connections.”

Bruce Smith, a Renaissance professor and new senior hire, plans to spend the next few months looking at tapestries and wall hangings at the Huntington Library in San Marino, a familiar haunt to him from his days researching his book on the urban soundscapes of Shakespearean London. Smith’s new book is on “passionate perception” in the 16th and 17th centuries.

Smith’s methodology consists of reading literary texts from the period that have to do with vision, hearing, sensation and perception, studying modern neuroscience, and examining visual images and music of this period. But archives need not be centuries-old texts. Professor Carla Kaplan compiled an 800-page collection of Zora Neale Hurston’s letters written in the 20th century. David Román, a professor of American Studies and English, researches what he calls an “embodied” archive, along with official archives. His latest book is on the performing arts in contemporary American culture.

“My main archive is not found in university settings, libraries or museums,” Román states. “It is found in the theaters and performance venues spread throughout the nation.”

Román is also teaching an archival research course, focusing on the preservation of cultural practices and histories of minority subcultures.

“We will survey the many different ways that scholars established archives for subcultural groups whose relationships to traditional archival systems cannot be assumed,” he details.

Assistant Professor of English Rebecca Lemon notes the role of archival research in the College’s English department, claiming it has clearly utilized inventive and thought-provoking methods of scrutiny.

“We are unusually receptive to conducting such archival research within a framework driven by aesthetic, social and cultural questions that extend beyond the archive,” Lemon assesses. “It is this balance that is especially compelling.”

—K.Y.K.
The New Face of California

When you ask Bill Deverell why he is leaving Caltech to become a USC College history professor he responds in kind: “If I were to ask all of the USC scholars who study the American West to meet in USC’s Bovard auditorium, the place would not only be packed with intellectually courageous scholars, there would be a line out the door,” he smiles. “This is one of the few places in the world where that anecdote could actually be true. That, to me, is extremely exciting.”

As a historian of the 19th and 20th century American West, Deverell breathes excitement, particularly when he talks about his new position as a College history professor. He is among the more than 40 distinguished professors who have joined the College in recent years as part of the senior faculty recruitment effort.

When he comes to campus this fall, Deverell’s first order of business will be to head up a new collaboration between the Huntington Library in San Marino, California and the College. The Institute will focus on the history of California within the larger context of the history of the 19th and 20th century American West. The collaboration will build on the partnership already underway between the College and the Huntington in Early Modern studies.

“The two- and three-dimensional artifacts within libraries, museums, and galleries are invaluable. Each one reveals a small piece about California’s past,” says Deverell, who has long embraced the importance of collaboration.

He previously taught American History courses at the Huntington, was a visiting scholar at the Getty Institute, chaired the California Council for the Humanities and co-edited a book with Tom Sitton, from the Los Angeles County Museum of Natural History.

Looking Backwards

His interest in California has sharpened over time: “I remember being awestruck when I visited Yosemite as a little boy,” says Deverell, who grew up in northern California, Colorado and Japan. “The landscape was the first of a growing list of things about the western United States that fascinated me.”

As an undergraduate American Studies major at Stanford, he was further turned onto the history of the American West through the literature he read, such as Mark Twain and John Steinbeck.

Later, as a freshly minted college graduate, Deverell did something that to some of his college friends seemed counterintuitive. The budding California historian headed east. He found himself the lone graduate student in his cohort at Princeton deeply interested in the western United States.

“But what I gained from earning my Ph.D. at Princeton was a solid understanding of American History. That foundation is essential in order to really plum the depths of California history and understand this state’s role in the context of the larger national identity.”

The rest, as they say, is history.

Analyzing Expansion

From California’s role in the civil war to the whirlwind of the Gold Rush and manifest destiny, Deverell has published eight books and countless papers. He has cultivated expertise in the environmental history of Los Angeles, civil rights and ethnicity.

Today, he jokes that he spends most of his waking and sleeping hours in 1910. “When I look at California’s sense of itself in the early 1900s, there were tectonic changes taking place, both socially and politically.” He is referring to the population explosion of the early 1900s, when San Francisco’s population was eclipsed by Los Angeles. “It was the time when Americans were examining the legacies of western conquests and they were just beginning to understand how California fit into this national expansion.”


He is currently at work on a new project about the post-Civil War American West. Along with Greg Hise, a faculty member in the USC School of Policy, Planning and Development, Deverell is co-editing the book, The Land of Sunshine: The Environmental History of Los Angeles (University of Pittsburgh Press).

“The collection of faculty and students at USC are very passionate about their work here, and I can’t wait to learn from all of them,” he says. —N.S.

Parlez-vous Français?

USC establishes a joint center

USC has new amis.

The French Embassy to the U.S. and USC College recently announced the joint establishment of the USC Francophone Resource Center. USC’s Doheny Library is also a partner.

The Center, which will open its doors in August in Doheny Library, is part of a French government initiative to promote the study of French language and francophone cultures in the U.S. It will host a diverse set of multidisciplinary activities including distinguished francophone writers, scholars, filmmakers, journalists and scientists. It is the first such center on the West Coast.
Read, See, Touch
Initiative prompts interdisciplinary dialogue

Four years ago, College Dean of Academic Programs Sarah Pratt noticed something interesting: an Ahmanson Humanities Initiative brought together College faculty from many departments including several outside the humanities, resulting in a lively ferment on campus. Eager to build upon this energy, she recently tested the idea of a new initiative, called Literary, Visual and Material Culture (LVMC), with faculty colleagues. The initiative attempts to answer how scholars and students understand text, artifacts and images in relation to the larger culture that produced them. Rather than focusing on traditional forms of art or literature, the initiative considers the overlap between images, works-in-progress seminars, where faculty can present their work, so long as it addresses questions of culture from a literary, material and/or visual approach.

“As faculty, we often travel to scholarly conferences while having little idea what colleagues on our own campus are working on,” says Meyer. “The intent of the works-in-progress series is to build an intellectual community at USC across our different departmental homes, methodological approaches and specialized interests.”

The fall series, “Forbidden Knowledges,” addressed censorship, disciplinary boundaries and sub-cultural or secret representations. The spring series “Distant Knowledges” focuses on the interpretive and historical distance that separates scholars from their objects of inquiry. The current collaboration between LVMC and the USC Huntington Institute for Early Modern Studies is another example of the initiative’s vision to expand beyond traditional scholarly bounds. Next year, utilizing funding from the Andrew W. Mellon Foundation, the initiative will offer a two-year postdoctoral fellowship.

LVMC is also leading an effort to provide team-taught graduate courses. The steering committee chose “Visualizing Colonialism” to be taught next year by Professor of History Philippa Levine and Professor of Anthropology Janet Hoskins. The course will analyze the representations of colonial encounters on different continents and historical periods. Another course, “Visual Culture and its Discontents,” will address the uses and limits of visual studies. The seminar will be taught by Nancy Troy, professor of art history, and Annie Friedberg, professor in the School of Cinema/Television.

LVMC committee members Vanessa Schwartz, associate professor of history, Marita Sturken, associate professor in USC’s Annenberg School for Communication, and Friedberg have received a Zumberge grant for $25,000. The funding will sponsor a colloquium series on the future of visual culture studies and assist LVMC in beginning a center for visual culture.

“The colloquium and the proposed center will reach beyond USC to integrate the best institutions in the area, including local curators and those associated with museums and foundations,” says Schwartz. Pratt agrees. “It’s clear that work at USC has become central to the way that cities are understood in our new global order. Icons underscore the symbolic nature of space and the centrality of visual culture in modern urban settings,” say Etherton and Schwartz. From Berkeley to Bloomington, Mexico City to Montreal, and of course Los Angeles, scholars presented the visual record and interpretations of global cities from Augustan Rome to Shanghai.

Caroline Carter, associate professor of geography in the College, was the conference’s commentator on presentations about “Worldly Icons.” Giuliana Bruno from Harvard and Kevin Starr, the former California State Librarian and currently a history professor in the College, addressed the conference. Bruno discussed her prize-winning book, Atlas of Emotion, Starr gave a lecture on the library as an urban icon. Through the focus of the conference was urban icons, participants addressed the broader concept of the intersection of visual culture and urban history.

“This conference highlights the vital intellectual community at USC whose research focuses on global urban cultures,” say Etherton and Schwartz.
Baker’s encounters with sculpture, the history of collecting

Malcolm Baker will go to great lengths to get a good close look at a work of 18th century sculpture. He once climbed up scaffolding erected in Westminster Abbey to meticulously examine the features of its 20-foot monuments. Following up a documentary reference to unknown terracotta models for two important portrait busts, he set out for the Earl of Haddington’s residence in search of what were assumed to be two plaster versions.

“The butler and I took them down from the bookcases in the library,” Baker recounts, “and when I looked at them carefully, I realized they weren’t plaster, but the original terracotta models. It was quite an exciting discovery!”

Baker, a professor of art history at USC College and director of a USC-Getty Research Institute graduate program on the history of art collecting and display, is a distinguished curator and a prize-winning scholar. He arrived at USC College in the fall of 2003, as part of the College’s senior faculty recruitment initiative.

Teaching at the Getty

Baker leads a weekly graduate seminar at the Getty Research Institute on the history of collecting. In a sunlit conference room on a high hill of the Santa Monica Mountains, students convene around an elliptical wooden table and discuss the collecting and displaying of works of art.

“What is the role of the collector versus the connoisseur? Is collecting a gendered phenomenon?”

This innovative program is closely linked with the Getty Project for the Study of Collecting and Provenance, based on the largest single body of data about art collecting and the changing ownership of works.

This April, Baker spearheaded a working session of 15 experts—art historians, editors, economic historians and sociologists—in the field to fashion an agenda for a larger public conference next year. He hopes to collaborate with the Huntington and the Yale Center for British Art, where he was a two-time visiting fellow.

In detailing his interest in collecting, Baker says he not only looks at the actual formation of collections, but also at what happens to works when they are moved from their settings in museums and recontextualized.

It is here that Baker takes his delight in spectatorship a step further.

A Curatorial Background

As an undergraduate at the University of Durham, Baker studied 8th century art and archaeology, and did his postgraduate work in 12th century illuminated manuscripts at the University of Edinburgh. During his 11 years as a curator at the Royal Scottish Museum, his interest was sparked in sculpture—but in late Gothic, German and Netherlandish works.

“What interested me about sculpture,” says Baker, “is how as a viewer you engage with this three-dimensional representation. There’s a directness with the encounter that is different from painting.”

It wasn’t until he moved to the Victoria and Albert Museum in 1980 that he became more steadily steeped in 18th century sculpture. He attrib-

Marvels in Marble

Old Rocks, New Approaches

Students go to the desert to look for signs of life

stromatolites—calcium carbonate—tufa…” These are the words repeated by a group of USC College graduate students sitting 100 feet up on a precarious outcropping of rock.

They are on a class field trip at the Trona Pinnacles, rock towers built up from the bottom of what was once an ancient lakebed. Robert Douglas, professor of earth sciences, jokes that they are there “just to have lunch.”

Really, they are soaking in the surroundings, asking questions about the biological origins of life and exploring the geological forms located in the arid Mojave Desert.

The class, Geology 601, “Biosignatures in Sediments and Rocks: Modern and Ancient,” is a team-taught graduate course led by scientists Dave Bottjer, Frank Corsetti, Kenneth Nealson and Douglas.

The course has an interdisciplinary basis.

“What we are trying to get across to students is, can we define, in geological and biological terms, the difference between a living planet and a dead planet?” says Nealson, who holds the Wrigley Chair in Environmental Studies.

This relates directly to the work the NASA rovers are conducting on Mars.

“In terms of applicability, the whole Mars mission—the idea that we would go to another planet and find evidence of life—is a driving factor behind the course,” says Corsetti, assistant professor of earth sciences.

The students at the Trona Pinnacles seem excited by the prospect of finding evidence of life in the towering red rocks. After lunch, they lean closer to the rock face, trailing their fingers across the scaly surface and examining rock fragments.

Millions of miles away, the Mars rovers did nearly the same thing.

“They are just robotic geologists,” says Bottjer, professor of earth sciences and biological sciences.

“Scientists like to go to places like Death Valley in these studies because they are such extreme environments and they could possibly tell us more about life on Mars, which is itself an extreme environment,” Corsetti adds.

The students are exposed to a variety of harsh environments over the course of their trip. After Trona, they visited extreme lake environments in Death Valley and ancient hot spring deposits near Mammoth.

“We hope the students get the insight to start asking questions about living and dead planets,” says Nealson, professor of earth sciences and biological sciences. “We certainly don’t have all the answers, but with any luck, in 40 years, these students themselves will have some of the answers precisely because they had the insight in the first place.”

With the dynamic combination of geologists and biologists, the students are getting not only insight into origins and evidence of life, but also into the emerging field of geobiology.

“What’s great about this course is that we have Ken who focuses on living things and the signals they leave and Dave, Bob and I who focus on things that were living in the past. It’s great that we can all talk and teach together,” says Corsetti.

This dialogue is integral to not only USC, but also the search for life on other planets.

“Right now on Mars we are grasping because we have no idea what life will look like,” says Corsetti. “Ken likes to say that the worst people to look for extraterrestrial life are biologists because they know what life looks like on earth, but they have no idea what it will look like on other planets.”

The students of Geology 601 won’t have this problem. With the interdisciplinary background the course and the program provides, they may very well have the insight to go where no geologist or biologist has ever gone before.

—K.S.
Three new philosophers raise department prominence

Sculpture as Theatre, co-authored with David Bindman, was an innovative study of a major European artist. “The book examined in a very thorough and fresh way how these monuments were not only commissioned and viewed,” Baker explains, “but also how they were designed and made.”

In 1996, Roubiliac was awarded the highly esteemed Mitchell Prize, which lauds an outstanding work of art history in the English language, and the Book Prize of the American Historians of British Art.

Baker’s next book, Figure in Marble: the Making and Viewing of Eighteenth-Century Sculpture, continues to connect the social meaning of the works, the conditions in which they were viewed and the circumstances of their production. He drew upon his knowledge as a curator, as well as his teaching experience at the University of York (where he was the Henry Moore lecturer in the History of Sculpture), for an interdisciplinary approach that linked art history, history and English literature.

Currently, Baker is working on a book that concerns the portrait bust as a mode of representation in 18th century Britain. Another on-hand project is a study of the catalogue as a genre of art historical writing, which is closely linked with his work on the history of collecting.

—K.Y.K.

The Meaning of Language and Law

Three new philosophers raise department prominence
Coming Soon to a Screen Near You
Chemist sets electronic displays aglow, with a little help from a friend

When USC College Chemistry Professor Mark Thompson saw the February issue of Scientific American magazine, his first thought was to reach for the phone, never mind the three-hour time difference, and call his friend and close collaborator Steve Forrest at Princeton University.

After all, it is not everyday that the fruits of research grace the cover of a magazine sold at newsstands, especially under a headline like the one employed by the Scientific American editors: “The Future Looks Flexible: Organic Light Emitters Enable Better Electronic Displays.”

Below the optimistic title appears an artist’s vision of the ultimate technological multi-tasker of the future—a cell phone/video phone/personal digital assistant/wireless computer/movie player featuring a colorful, thin and flexible screen unfurled from a sleek, silver handheld device.

The imagined screen, made from organic light-emitting devices (OLEDs), represents an advanced version of the new wave of OLEDs, based on Thompson and Forrest’s pioneering research, now being used to light up a display on a simpler cell phone recently introduced in Japan.

In Glowing Color
Thompson creates novel chemical compounds, unusual in that they are organic (made mostly of carbon, hydrogen, nitrogen and oxygen) and they can emit light, a property usually restricted to the rigid inorganic crystals and metals used in most of today’s computer and flat panel television screens.

Making subtle changes in light-emitting compounds, he’s created a series of inventive molecules that can efficiently make electricity from sunlight. “In a way, my solar cell work is just the opposite of OLEDs,” says Thompson. “With a solar cell you want to make something that absorbs light and makes electricity. In an OLED, you put electricity in, and you want a molecule that converts that into light.”

At present, nearly 100 manufacturers have invested in developing applications for OLED technology. Although some obstacles remain (including durability and manufacturing), fluorescent OLEDs are appearing in cell phones and digital cameras.

Thompson predicts “the killer application” of OLEDs will be plastic display screens that can be rolled and unrolled like a map and taken anywhere. He also has high hopes for his organic solar cells, which will also be flexible in a way that silicon solar cells are not. In terms of energy efficiency, “we’re where we were five to six years ago in OLEDs,” he says.

Universal Display Corporation of Ewing, New Jersey, The company funds some of the duo’s research and licenses the technologies to electronic manufacturers such as Pioneer, maker of the new cell phone featuring the team’s energy-efficient OLEDs.

A Bright Future
Thompson also works on organic solar cells, with about a third of his 20 graduate students focused on synthesizing organic materials that can efficiently make electricity from sunlight.

“In a way, my solar cell work is just the opposite of OLEDs,” says Thompson. “With a solar cell you want to make something that absorbs light and makes electricity. In an OLED, you put electricity in, and you want a molecule that converts that into light.”

Two Scholars, One Team
It’s not unusual for the research partners, separated by disciplines as well as most of North America, to be referred to as one group.

The two first began working together on OLEDs in 1992, shortly after Forrest arrived at Princeton (from USC, where he was a professor from 1985 to 1992) and three years before Thompson left Princeton for USC College. Their overlap was brief, but it led to a strong partnership.

“Around the world, we’re recognized as one lab,” says Forrest. “People used to be surprised that we lived so far away from each other, but I think we’re held up as a success Universal Display Corporation of Ewing, New Jersey. The company funds some of the duo’s research and licenses the technologies to electronic manufacturers such as Pioneer, maker of the new cell phone featuring the team’s energy-efficient OLEDs.

A Bright Future
Thompson also works on organic solar cells, with about a third of his 20 graduate students focused on synthesizing organic materials that can efficiently make electricity from sunlight.

“In a way, my solar cell work is just the opposite of OLEDs,” says Thompson. “With a solar cell you want to make something that absorbs light and makes electricity. In an OLED, you put electricity in, and you want a molecule that converts that into light.”

At present, nearly 100 manufacturers have invested in developing applications for OLED technology. Although some obstacles remain (including durability and manufacturing), fluorescent OLEDs are appearing in cell phones and digital cameras.

Thompson predicts “the killer application” of OLEDs will be plastic display screens that can be rolled and unrolled like a map and taken anywhere. He also has high hopes for his organic solar cells, which will also be flexible in a way that silicon solar cells are not. In terms of energy efficiency, “we’re where we were five to six years ago in OLEDs,” he says.

Two Scholars, One Team
It’s not unusual for the research partners, separated by disciplines as well as most of North America, to be referred to as one group.

The two first began working together on OLEDs in 1992, shortly after Forrest arrived at Princeton (from USC, where he was a professor from 1985 to 1992) and three years before Thompson left Princeton for USC College. Their overlap was brief, but it led to a strong partnership.

“Around the world, we’re recognized as one lab,” says Forrest. “People used to be surprised that we lived so far away from each other, but I think we’re held up as a success Universal Display Corporation of Ewing, New Jersey. The company funds some of the duo’s research and licenses the technologies to electronic manufacturers such as Pioneer, maker of the new cell phone featuring the team’s energy-efficient OLEDs.

A Bright Future
Thompson also works on organic solar cells, with about a third of his 20 graduate students focused on synthesizing organic materials that can efficiently make electricity from sunlight.

“In a way, my solar cell work is just the opposite of OLEDs,” says Thompson. “With a solar cell you want to make something that absorbs light and makes electricity. In an OLED, you put electricity in, and you want a molecule that converts that into light.”

At present, nearly 100 manufacturers have invested in developing applications for OLED technology. Although some obstacles remain (including durability and manufacturing), fluorescent OLEDs are appearing in cell phones and digital cameras.

Thompson predicts “the killer application” of OLEDs will be plastic display screens that can be rolled and unrolled like a map and taken anywhere. He also has high hopes for his organic solar cells, which will also be flexible in a way that silicon solar cells are not. In terms of energy efficiency, "we’re where we were five to six years ago in OLEDs,” he says.

---Eva Emerson

Chemist Mark Thompson uses a thermal deposition system to create simple OLEDs in his lab. The system heats up the light-emitting organic compounds he develops, depositing the compounds in ultra-thin layers onto a metal film attached to a substrate such as glass, plastic film or even textiles.

This cell phone is the first commercial product to incorporate the phosphorescent OLEDs invented by Thompson’s team (and further developed by Universal Display Corp.). For now, the phone is available only in Japan.

The pair and their respective universities hold upwards of 80 shared patents and patent applications related to OLEDs, many of which have been further developed at the Universal Display Corporation of Ewing, New Jersey. The company funds some of the duo’s research and licenses the technologies to electronic manufacturers such as Pioneer, maker of the new cell phone featuring the team’s energy-efficient OLEDs.

A Bright Future
Thompson also works on organic solar cells, with about a third of his 20 graduate students focused on synthesizing organic materials that can efficiently make electricity from sunlight.

“In a way, my solar cell work is just the opposite of OLEDs,” says Thompson. “With a solar cell you want to make something that absorbs light and makes electricity. In an OLED, you put electricity in, and you want a molecule that converts that into light.”

At present, nearly 100 manufacturers have invested in developing applications for OLED technology. Although some obstacles remain (including durability and manufacturing), fluorescent OLEDs are appearing in cell phones and digital cameras.

Thompson predicts “the killer application” of OLEDs will be plastic display screens that can be rolled and unrolled like a map and taken anywhere. He also has high hopes for his organic solar cells, which will also be flexible in a way that silicon solar cells are not. In terms of energy efficiency, “we’re where we were five to six years ago in OLEDs,” he says.

---Eva Emerson
**Genetics of the Sea**

New biologist brings genomics and a new rigor to marine realm

Environmentally, the study of food from the sea: fish and shellfish, including oysters, salmon and lobster.

Hedgecock's work takes on particular importance as humans face the limits of the oceans to provide food for a growing population. Overfishing has depleted the world's fisheries, with almost half now exhausted. The UN predicts the demand for seafood will double by 2040.

"In my lifetime, I've seen major fisheries collapse. And as fisheries continue to go down, people begin to push for action," Hedgecock says.

Action has taken the form of hatchery breeding programs designed to enhance or conserve wild fish populations. "In Japan alone, 70 to 80 marine species already have been targeted in enhancement programs," he says.

"The problem is no one knows what the risks are," says Hedgecock.

And that is where the tools of genomics, along with an understanding of ecology and evolutionary theory, can play a critical role.

"Genetics adds much-needed rigor to fisheries management plans." Hedgecock says.

We can look at whether enhancement programs could damage wild populations, and if so, how you could manage them to avoid or minimize that damage," he says.

The most likely form of damage? Lowering the genetic diversity of the wild fish populations and presumably the population's ability to withstand environmental changes, disease and other threats.

**A Fine Balance, a Rare Find**

Hedgecock refined his ability to balance basic and applied work over nearly 30 years at the UC Davis Bodega Marine Laboratory and the associated Agricultural Experiment Station, where he led genomics efforts.

Hedgecock, who joined USC College as the first Paxon H. Offield Professor of Fisheries Ecology last fall, has been instrumental in bringing genomics to the study of food from the sea: fish and shellfish, including oysters, salmon and lobster.

Hedgecock's experience in marine policy makes him a valuable addition to the Wrigley Institute for Environmental Studies says Tony Michaels, the institute's director and professor of biology.

"He does world-class basic science in genetics and, at the same time, his results could dramatically improve the management of fisheries and the potential for aquaculture to help feed the world," says Michaels.

**On the Half Shell**

Hedgecock may be best known for crossing breeding Pacific oysters, one of the top crops of commercial aquaculture. His team has developed a new hybrid oyster variety that grows larger and faster than its parent stock—a quality that has attracted the attention of oyster farmers, who plan to begin using it in the near future.

Hedgecock has done much of the oyster work in collaboration with marine biologist Donal Manahan, the College dean of research. Using the hybrid oyster, they now plan to investigate the biological basis of hybrid vigor, with Hedgecock studying genetic aspects and Manahan focusing on metabolic changes associated with the hybrid's rapid and sustained growth. Ultimately, they hope to discover the workings of the phenomenon in oysters as well as in corn and other species.

**More Fish in the Sea**

Working with the Wrigley Catalina facility, Hedgecock will lead a fisheries research program, including his project on oysters and ongoing work on a state-funded white seabass hatchery enhancement program designed to boost numbers of the popular recreational fish.

Although the hatchery program began more than a decade ago, when local seabass landings reached historic lows, Hedgecock is the first to gauge the program's potential threats to wild seabass genetic diversity.

The project is heavily informed by his earlier work with Pacific Chinook salmon of the Sacramento River and Central Valley, where he developed genetic fingerprinting techniques to distinguish between rare and officially endangered "winter-run" salmon and closely related salmon. His genetic analyses proved essential in building an effective captive breeding program and revealing the program's positive effect on the diversity of wild salmon.

—E.E.
Spoken Words
USC team develops new tool to capture orchestration of normal speech

A team of USC researchers has brought cutting-edge imaging tools to the study of human speech, capturing the clearest moving images to date of the rapid vocal movements that turn sound to language.

“We’re using technological tools to get better data on how the vocal tract moves during speech,” says Dani Byrd, an associate professor of linguistics and director of the USC Phonetics Laboratory in USC College. “Magnetic resonance imaging (MRI) allows us to look at movies of the entire vocal tract in action, something no one’s been able to see in real time before now.”

The team reported successful development and use of real-time MRI to create high-resolution movies of the vocal system in April’s Journal of the Acoustical Society of America.

By helping to clarify ways that humans produce normal speech, the new technique may help people learn a foreign language, teach machines to speak more naturally and possibly suggest therapy for those with speech problems due to strokes.

Elemental Fascination
Work with phosphorus leads to drug discoveries

When it comes to the elements, chemists play favorites. For USC College’s Charles McKenna, it’s phosphorus.

“It can be argued that phosphorus is the most critical element,” says McKenna, a professor of chemistry and pharmaceutical sciences.

“Phosphorus compounds are ubiquitous. They play a central role in life,” he says. “Both DNA—the molecule that stores our genetic information—and ATP, a molecule at the heart of energy reactions in the cell, are phosphates. Our bones and teeth are made mostly of calcium-phosphate minerals.”

In his hands, the element forms the basis of a drug discovery program that may improve human health and save lives.

First isolated in the late 17th century, elemental phosphorus glows in the dark. It is a key ingredient in fireworks and, as phosphorus sulfide, in strike anywhere matches. The element, itself a poison, comes in deadly forms—it’s found in sainin nerve gas, for example—as well as the more benign. In toothpastes, phosphate compounds control tartar.

McKenna became fascinated with biochemical applications of phosphorus compounds as a post-doc at Harvard, after earning a Ph.D. at UC San Diego.

Some of his earliest work at USC resulted in a now standard method important in his field of organic phosphorus chemistry. McKenna, also noted for his nitrogen fixation studies, is one of the leading world experts in phosphonocarboxylate chemistry, a line of research that has led to the discovery of new anti-viral drugs.

With Boris Kashemirov, a long-term research scientist in his lab, and some of his 10 graduate students and post-docs, McKenna investigates compounds that attack the ability of DNA polymerases (the enzymes that copy DNA in cells) and related enzymes to do their jobs, including copying the viral genetic information essential to the spread of infection.

This approach has been crucial to the discovery of drugs active against HIV—the human immunodeficiency virus that causes AIDS—and has led to progress on drugs targeting the herpes viruses, which include the virus that causes shingles, the HSV-2 virus that leads to the skin cancer Kaposi’s sarcoma, and herpes simplex-2 virus.

A fellow of the USC Center for Excellence in Teaching and a 2003-04 General Education Teaching Award winner, McKenna takes pride in introducing students to “chemistry in context.” His innovative and popular course, “AIDS Drug Discovery and Development,” earned him a commendation from Provost Lloyd Armstrong, Jr. and the appreciation of many non-science majors.

McKenna also conducts research aimed at improving the transport of anti-viral drugs within the body, partly in collaboration with faculty in the School of Pharmacy. By altering the chemistry of drugs, he hopes to transform drugs available only intravenously into pills, including the key anti-viral drug foscarnet.

Last year, McKenna’s group began work on a cooperative biodefense project developing new drugs for the smallpox virus, considered one of the major biological threats posed by terrorists.

In another project, funded in part by Procter & Gamble, McKenna investigates a class of compounds called bisphosphonates to develop new drugs targeted at bone diseases such as osteoporosis, the progressive thinning of the bones that leaves the elderly at high risk of fractures. In separate studies, his group will be looking at the application of these compounds to treat cancer.

—E.F.
The advance comes as a result of an interdisciplinary collaboration led by Byrd and electrical engineer Shrikanth Narayanan, an associate professor in the USC Viterbi School of Engineering who focuses his research at the interface of speech, engineering and computer science.

The team also drew on the talents of MRI systems researcher Krishna Nayak, an assistant professor of electrical engineering and medicine; Sangbok Lee, a research scientist in linguistics and electrical engineering, and Abhinav Sethy of electrical engineering.

MRI has been used for over a decade in speech research, says Byrd, who focuses her research on the production, perception and physical properties of speech sounds.

Up to now, MRI has primarily recorded still images of the dynamic vocal tract, data that has been useful but limited in what it could tell researchers about the timing of speech.

But, as anyone who has ever tried a tongue-twisting phrase like “Peter Piper picked a peck of pickled peppers” knows, speaking is a moving art—an elegant and complex orchestra of vocal parts to produce sounds, words and sentences a listener can understand.

Narayanan and Nayak led the development of new analytical software that takes raw data from the MRI and reconstructs it into a moving image with 20 to 24 frames per second—just fast enough to capture the rapid changes in lips, tongue, jaw and the airway that produce specific vowels, consonants and intonations of speech.

Real-time MRI allows Byrd to see and confirm the degree of sound overlap in spoken language, a characteristic of human speech she helped reveal in earlier work.

“There are no spaces between words in speech,” says Byrd. “People overlap sounds within syllables. With MRI, you can actually see two sounds being made at the same time.”

The researchers speculate that visual cues produced by MRI movies could help foreign language students learn to speak unfamiliar sounds, such as the “th” sound in English.

“These images offer a view of how to pronounce sounds,” says Byrd, referring to her own experience with a difficult-to-pronounce sound (it most closely resembles “r” in English) in the Tamil language of Southern India, which Narayanan speaks fluently.

The team recorded Narayanan saying the sound in the MRI. Studying the images, Byrd saw how to say the sound correctly—“the tongue tip is high in the palate making a cupped shape”—and finally got it right.

Other potential applications include help for people affected by congenital malformations that may make motor control, and thus the articulation of specific sounds, difficult.

---E.E.

College scientists get $3.5 million for program on the cellular scribe of DNA

The taq DNA polymerase is found in bacteria that live in hot springs, and is used extensively in the lab.

The National Cancer Institute has awarded USC College scientists $3.5 million for a multidisciplinary, multi-institutional study of the enzyme that faithfully copies our genetic information, enabling it to pass from one generation to the next.

The grant will fund structural, biochemical and computer studies designed to reveal how the enzyme, DNA polymerase, makes so few mistakes.

“We’re asking questions that can’t be asked without theoretical tools, and they can’t be answered without experimental and structural work,” says Arie Wakschel, co-principal investigator and professor of chemistry, who will lead the theoretical part of the project and guide the modeling of the enzyme’s activity using sophisticated computer software he’s developed.

“This is a unique opportunity to marry theory and experiment in molecular and computational chemical biology,” says principal investigator Myron Goodman, professor of biological sciences and chemistry.

When a cell divides, DNA polymerase copies the cell’s DNA. The enzyme adds the wrong, mismatched DNA base only once in every 10,000 to one million bases. Further proofreading drops the overall error rate to one in a billion—a sixth mistakes per cell division.

Most of these mutations are benign or neutral, but some may lead to cancer.

“The question is how the enzyme knows when it’s got the correct DNA base versus the incorrect one, and how that changes the speed of the reaction,” says Wakschel.

A third project led by structural biologist Samuel Wilson, deputy director of the National Institute of Environmental Health Sciences, will provide detailed 3-D “snapshots” of the enzyme.

Based on these, Wakschel’s studies will lead to specific predictions, which Goodman’s team will test in the lab and then provide feedback on the model. Once the model is perfected, all three groups will study altered versions of the enzyme to identify activities essential to its accuracy.

---E.E.

Radical Chemistry

A discovery that breaks the laws of chemistry

S

C

ience advances through exceptions—and exceptional work. USC College chemist Anna Krylov’s recent discovery of a rule-breaking molecule highlights both of these truths.

In collaboration with Paul Wenthold of Purdue University, Krylov has identified the first organic triradical, a molecule with three unpaired electrons that defies two basic chemical laws governing electron behavior.

In general, electrons prefer to be in pairs made up of electrons with opposite spins. Unpaired electrons are notoriously energetic, reactive and unstable until they match up with one another.

In a molecule with three unpaired electrons, chemists would expect two of the three unpaired electrons to assume different spins and pair up, or else for all the electrons to assume the same spin, effectively blocking any pairing.

But in Krylov’s triradical, the electrons don’t all have the same spin, and they somehow remained unpaired—an unprecedented finding of what is called anti-ferromagnetic coupling in an organic molecule.

That’s what makes the molecule Krylov’s team discovered so unusual and of great interest to scientists. It may also attract the attention of materials scientists.

“People are already trying to build magnets from materials other than metals, such as the polymers that form plastics,” says Krylov, an associate professor of chemistry.

Since magnetism is related to the behavior of unpaired electrons, figuring out the mechanisms that control their coupling could advance efforts to design non-metallic magnets, which would be lighter, cheaper and easier to fabricate than metal magnets.

Krylov and her graduate student L.V. Slipchenko studied the triradical using a novel theoretical, computer-based approach she unveiled in 2000, called the spin-flip method. The method allowed them to predict the molecule’s structure and behavior. Wenthold’s experiments then confirmed the predictions.

“The work provides the most convincing example yet that spin-flip is a powerful method to study these elusive molecules,” Krylov says.

The new findings appeared in the February issue of the journal Angewandte Chemie International Edition, and were reported on by Chemical & Engineering News.

---E.E.
When Mathematics Professor Firdaus Udawadia read the proposal for the Templeton Research Lecture Grant on the Constructive Engagement of Science, Philosophy and Religion, he immediately contacted Joseph Aoun, dean of USC College, who put him in touch with Religion Professor Donald Miller.

“Firdaus’ enthusiasm impressed me tremendously,” says Miller, Leonard K. Firestone Professor of Religion. “I knew that if we pursued this jointly, my partner would be someone who really would enjoy the entire process.”

Turns out, the pair will be working together for the next four years. In March, USC College received the 2004 Templeton Research Lecture Grant on the Constructive Engagement of Science, Philosophy and Religion.

The grant, made possible by the John Templeton Foundation, will offer up to $500,000 over four years for interdisciplinary studies. The grant will also support a Templeton Fellow and an annual distinguished lecture series. The foundation’s mission is to pursue new insights at the boundary between theology and science.

Udawadia and Miller were co-principal investigators of the grant proposal, entitled “Creativity: An Inquiry into the Nature of Innovation in Science, Art, Philosophy and Religion.”

The project will examine how creativity is at work during revelatory moments that occur in the sciences and the humanities. Rooted in the College, the project brings together 21 faculty from engineering, business, medicine, gerontology, dentistry, fine arts, communication and policy, planning and development. Together, this network of scholars will create new perspectives and paradigms on insight, revelation and inspiration. It is expected that the project will raise broader issues about the human mind and human culture.

“I think there has to be a discussion between the humanities and science because creative behavior does not compartmentalize itself into a third year of more specific information and operations management at the USC Marshall School of Business. “I believe we will have a very vibrant dialogue.”

Neuroscientist Michael Arbib, University Professor and Fletcher Jones Chair in Computer Science, will be an essential part of the project as he investigates the neuro-physiological basis for these moments. Arbib, professor of computer science, biological sciences and psychology, has written extensively on the interaction between the brain and its linguistic abilities, including the ability to verbalize about religious experience.

The project will unfold schematically. The first year will attempt to understand and compare differing systems of inquiry, inspiration and revelation. Year two will consider a psycho-neuro-biological approach, followed by a third year of more specific research into modes of inquiry that foster creativity. The fourth year will develop strategies for change, hoping to influence the intellectual debates and structures at USC and beyond.

“In the past, the study of religion has not been well integrated into most secular research universities. By relinquishing the academic study of religion, universities make possible a less intellectually rigorous hijacking of the topic by others,” says Aoun. “In the College, we are bucking the trend and studying religion in a novel, interdisciplinary way.”

The College’s study of religion includes scholars from anthropology, art history, classics, East Asian studies, economics, history, philosophy and sociology, as well as the resources of the School of Religion, the Center for Religion and Civic Culture, the Casden Institute, the West Semitic Research Project and Hebrew Union College.

“The Templeton grant is evidence that this interdisciplinary approach to religious scholarship is succeeding,” says Aoun. “We are very happy to see that the effort has been extended to incorporate people in the various professional schools at USC.”

Only two universities received the Templeton grants.

“The challenges of the 21st century require new interdisciplinary collaborations, which places questions of meanings and values on the agenda,” says William Grasie, executive director of the Metanexus Institute, a Philadelphia-based organization that oversees the grant awards. “We need to put questions about the universe and the universal back at the heart of the university.”

—K.S.


The “double identity” of Jesus has long fascinated Fox, a history professor in the USC College of Letters, Arts & Sciences.

Jesus was a man whose teachings often experi-enced moments of feeling truly blessed coupled with feelings of judgment. Jesus and his teachings, however, reach beyond strictly religious realms.

“Devotion to Jesus in America has taken secular, as well as religious forms,” says Fox. His book refers to numerous individuals, including Thomas Jefferson, Benjamin Franklin, Elizabeth Cady Stanton and Eugene Debs, who considered Jesus an indispensable moral example while denying he was divine.

Some reformers saw Jesus as the greatest philosopher of all time,” Fox says, “because he combined the reform of society with the reform of the soul.”

Others, like Debs, Martin Luther King, Jr. and Dorothy Day came to see their lives as imitations of Christ.

Fox’s analysis of King’s last speech brings to light the black experience of Jesus in America over the past two centuries. “The intensity and intrac-ticy of King’s experience of Jesus,” he writes, “came into sharp and final focus the night before his death, when he delivered his ‘I’ve Been to the Mountaintop’ address to the striking Memphis sanitation workers.”

As for the controversy surrounding director Mel Gibson’s film “The Passion of the Christ,” Fox says it “shows how Jesus continues to function in early 21st century America as a symbolic marker in on-going culture wars.”

—K.S.
Evolution’s Twist

When our human ancestors started eating meat, evolution served up a healthy bonus—the development of genes that offset high cholesterol and chronic diseases associated with a meat-rich diet, according to a new USC study.

Those ancestors also started living longer than ever before—an unexpected evolutionary twist.

The research by USC College professors Caleb Finch and Craig Stanford appeared in the Quarterly Review of Biology.

“At some point—probably about 2 1/2 million years ago—meat became important to humans,” says Stanford, chair of the anthropology department in USC College, “and when that happened, everything changed.”

“Meat contains cholesterol and fat, not to mention potential parasites and diseases like Mad Cow,” he says. “We changed.”

When that happened, everything became oxygen-rich more than a billion years after the planet’s atmosphere did, and an investigation of the Southern California Earthquake Center presented interactive 3-D software that allows viewers to see and study the network of earthquake faults underlying southern California.

The software, which will be released as a product this spring, won one of the special interdisciplinary awards and was introduced at the symposium by Brandee Pierce, a fifth-year philosophy major who has long been “fascinated by earthquakes” and will begin law school in the fall.

Senior English major Tupelo Hassman received an honorable mention for her unusual website, www.nameascar.com, on which visitors can buy a distinguishing mark from her body. Hassman, who will graduate this spring with a double major in English and philosophy, says, “I think we can learn a lesson from this.”

“Eating meat is fine, but in moderation and with a lot of exercise.”

—Galen Stibby and Gia Staffeld, USC News

A Culmination of Creativity

Symposium highlights student science, arts and feats of invention
Giving Back
Trojan couple creates scholarship to support students

Without a doubt, I would not have been able to attend USC College were it not for the scholarship I received,” says Colleen Phipps Kirst, a 1945 USC College graduate who attended high school in Kansas City, Missouri.

In the spring of 1941, Colleen, class valedictorian, was encouraged by her high school principal to apply for one of USC’s National Tuition Scholarships, a four-year scholarship offered to 25 students nationwide.

Upon receiving the scholarship, Colleen could hardly realize how it would affect her life, what amazing opportunities it would provide her and the lifelong friends it would allow her to meet.

At the same time, halfway across the country, a California boy from La Cañada-Flintridge had his plans well laid out. Phil Kirst wanted to be a builder and upon matriculating at USC, entered the School of Architecture. Phil enrolled in the naval ROTC program and received his naval sciences degree and commission in 1945. He served in the Pacific until mid-1946 when he received his discharge and returned to USC.

The rest, one could say, is history. Their four daughters graduated from USC College and their grandson, Eric Kirst, is currently a sophomore in the College, studying political science.

“We both credit our years at USC as some of the best times in our lives,” says Colleen. While their daughters were enlisted in the 1970s, Colleen served as president of the Alpha Phi mother’s club and of the inter sorority mother’s club in 1973-74.

The couple sighs, half-reminiscing, half-awestruck, when asked how USC has changed since their days on campus. “The University has done a marvelous job in ongoing development through the years,” says Colleen. “The campus is beautiful—one of the best in the nation, especially among urban campuses.”

“USC has done so many great things for the surrounding community,” adds Phil.

The decision for the Kirsts to establish a USC College scholarship in July 1999—called the Philip Kirst and Colleen Kirst Endowed Scholarship—was an easy one.

“Because of the cost of higher education today,” notes Colleen, “middle-class families are often caught in a trap. Lower income students can receive government grants. Wealthy families can afford the tuition. Middle-class students, however, have to struggle to pay the bills.”

The Kirsts hope their scholarship will help students stuck in that middle area.

Presidential Associates and members of the board of the Half-Century Trojan Club, the Kirsts know that scholarships are a motivating force within universities.

“We both credit our years at USC as some of the best times in our lives,” Phil says. Colleen agrees: “This scholarship is a way for us to give back to the University and perpetuate the ability for students to attend this great school.”

This year’s recipients of the Kirst scholarship were Kim Driftmier, a kinesiology major, Tracy Hensley, a major in classics, and Rachael Sonntag-Bloom, a political science major.

—K.S.

A Sampling of Recent Grants

<table>
<thead>
<tr>
<th>Grant Description</th>
<th>Funding Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center for Religion and Civic Culture</td>
<td>$200,000 from the James Irvine Foundation</td>
</tr>
<tr>
<td>Thomas H. Jordan, Earth Sciences</td>
<td>$1,127,450 from Unavco, Inc. for the Support for Existing Western U.S. GPN Networks</td>
</tr>
<tr>
<td>Charles E. McKenna, Chemistry</td>
<td>$85,000 from Procter and Gamble Company for Biophosphate Optimization</td>
</tr>
<tr>
<td>David A. Okaya, Earth Sciences</td>
<td>$149,698 from the National Science Foundation for a multi-disciplinary study of the northern Apennines mountains</td>
</tr>
<tr>
<td>Nancy Pedersen and Margaret J. Gatz, Psychology</td>
<td>$85,000 from Procter and Gamble Company for Biophosphate Optimization</td>
</tr>
<tr>
<td>Geraldine J. Peters, Physics</td>
<td>$6,706 from the National Aeronautics and Space Administration for a Snapshot Survey of Sharp-Lined Early B-Type Stars</td>
</tr>
<tr>
<td>Xiaqing Pi, George Haji and Chunming Wang, Mathematics</td>
<td>$24,858 from Space Environment Technologies for an Operational Ionospheric Forecast System</td>
</tr>
<tr>
<td>Surya G.K. Prakash, Chemistry</td>
<td>$160,000 from Inc for Steady Current Densities for New Hydrocarbon Based Propellants</td>
</tr>
<tr>
<td>Mark Thompson, Chemistry</td>
<td>$150,000 from Universal Display Corporation for Phosphorescent White OLEDs</td>
</tr>
<tr>
<td>Ta-Liang Tong</td>
<td>$55,630 from the Central Weather Bureau in Taiwan for an Earthquake Strong-Motion Rapid Reporting System and Related Studies</td>
</tr>
<tr>
<td>John Tower, Biological Sciences</td>
<td>$253,895 from Ellison Medical Foundation for Retinoblastoma Xenograft Models</td>
</tr>
<tr>
<td>John P. Wilson, Geography</td>
<td>$74,341 from Parsons, Brinkerhoff, Quade &amp; Douglas, Inc. for the California Coastal Sediment Master Plan: GIS Component (Phase 1)</td>
</tr>
<tr>
<td>The Wrigley Marine Science Center</td>
<td>$500,000 from The Rose Hills Foundation for Student Aid</td>
</tr>
</tbody>
</table>

Joint Educational Project: $25,000 from the Crail-Johnson Foundation for the USC Readers Plus program

Donald Arnold, Biological Sciences: $75,000 from the Whitall Foundation, Inc. for the Mechanisms of Dendritic Targeting of Potassium Channels

Casden Institute for Study of the Jewish Role in American Life: $50,000 from the Amado (Maurice) Foundation

$500,000 from The Rose Hills Foundation for Student Aid
Changes In the Air
College welcomes two new advisory board chairs

This spring, new leaders were appointed to two of the five key advisory boards in USC College of Letters, Arts & Sciences.

Entertainment executive Scott A. Stone has been named chair of the Casden Institute for the Study of the Jewish Role in American Life Advisory Board.

Los Angeles philanthropist MaryLou O. Boone will assume leadership of the Humanities Advisory Board.

“Scott Stone and MaryLou Boone already have given a great deal of their time and talents to USC and the College. I am thrilled that they have agreed to take on these new leadership roles,” says Joseph Aoun, dean of USC College.

“Their guidance will be crucial to the success of board efforts to strengthen and forge links between the College and those outside of academia who share many of our interests and goals,” Aoun says.

Stone’s work with the Casden is a natural confluence of his interests and strong sense of community service.

“Scott Stone has been a leader in the entertainment industry, USC organizations and the Jewish community of southern California, so becoming chair of the Casden Advisory Board is a natural fit,” says sociologist Barry Glassner, the Myron and Marian Casden Director of the Casden Institute.

For his part, Stone says: “My goal is two-fold: To foster an ongoing dialogue between USC and the greater L.A. Jewish community, and to support the study of Jewish influence on our modern culture.”

Stone earned a Bachelor’s in cinema production in 1979, when the School of Cinema-Television was still part of the College.

Co-founder and partner in the independent production company Stone Stanley Entertainment, Stone has overseen the creation and production of many familiar shows, movies and home videos—from “The Mole,” “Loveline” and “The Man Show,” to award-winning children’s series including “Fun House” and Nickelodeon’s “Legends of the Hidden Temple.”

Among many other activities, Stone sits on the USC School of Cinematic Arts Board of Councilors and is a Trustee and Executive Board Member of USC Hillen Foundation and, in the past, served on the Board of the USC Alumni Association.

Stone also serves on the boards of Temple Emanuel Beverly Hills and Hebrew Union College of Los Angeles, and is active in the National Foundation for Jewish Culture.

MaryLou O. Boone
Serving as Humanities Advisory Board chair will bring together many of Boone’s interests and experiences, while supporting College efforts to enhance and expand scholarship in the arts, history, literature, language, culture and philosophy—disciplines central to intellectual thought and exploration.

Increasing connections between the College and the Huntington Library, where Boone is one of five on the Board of Trustees, convinced her to become chair.

“There are now two very exciting collaborations between these wonderful institutions,” says Boone, referring to the existing joint research institute on early modern studies and a new cooperative research center focusing on the American West. “I have great interest in and a long history with both institutions, so it made sense for me to get more involved.”

Although Boone studied science—she graduated from the USC School of Dentistry with a B.S. in dental hygiene in 1952—she has always loved the humanities, calling them “the cornerstones of civilization.”

In the 1980s, a growing passion for 17th and 18th century French ceramics led to her emergence as a savvy art collector and a published authority on faience and soft-paste porcelain ceramics. She also returned to USC, earning a Master’s in art history in 1994.

“Given MaryLou Boone’s keen understanding of the arts and humanities, we know she will make an outstanding chair and help further our partnership with the Huntington and other major cultural institutions,” says Dean Aoun.

The Los Angeles Times has called her and her husband, George N. Boone, “pillars of Los Angeles’ cultural community.” The Boones, both USC alumni, have served on the boards of many area arts and educational institutions and are well known for their long-time service and philanthropy to the university. He is a member of the USC College Board of Councilors and is a Life Trustee of the university.

—F.E.

A Gift for the Oceans

On May 20th, USC College celebrated the installment of biologist Dennis Hedgecock as the Pasqual H. Offield Professor of Fisheries Ecology. (See Hedgecock story, page 13.)

A member of the advisory board of the USC Wrigley Institute for Environmental Studies, “Packy” Offield endowed the new professorship to bolster fisheries research and training at the Institute and its Philip K. Wrigley Marine Science Center on Catalina Island.

Hedgecock, who combines basic research on the genetics of marine animals with broader interests in aquaculture and fisheries management, will lead the Wrigley fisheries program Offield helped to establish in 2000 with a $1.5 million pledge.

The great grandson of William Wrigley, Jr., Offield lives on Catalina where he serves as chairman and CEO of the Santa Catalina Island Company. Saving marine fisheries has long been a passion for Offield, an avid fisherman who founded the Catalina Seabass Fund, serves on the board of the Billfish Foundation, is a benefactor member of the Catalina Conservancy and has led marine conservation organizations.

His extensive involvement in the issue has impressed upon him the need to train skilled fisheries biologists who not only understand the scientific aspects of managing fisheries, but also understand the political, economic and social impacts of management decisions.

“I thought it would be a real shame if we put together an entire marine sciences research center only to find there are no more fish in the ocean. And that’s the direction we’re headed,” says Offield. “I was happy to endow the professorship. The Wrigley needed someone who could train the future leaders of fisheries biology and policy.”

—F.E.
From Deep Blue to Black Ink

Thomas Hayden romanticized oceanography. “You think of Jacques Cousteau drinking red wine and working in a Speedo,” the U.S. News and World Report journalist laughs, conjuring the stereotype. But in his fifth year of graduate school, after studying marine biology and biological oceanography at USC College, he found himself alone at four in the morning, in the middle of campus at a microscope, sucking tiny marine fecal pellets through a very small straw. “So I saw something better,” Hayden says. “And I jumped at it.”

That something was an AAAS—American Association for the Advancement of Science—fellowship that links young scientists with media outlets for a summer. Hayden applied on a whim, went out to sea on a research mission, and on an ice breaker in Antarctica received an e-mail that asked for him to be in New York City to work at _Newsweek_ magazine about a week after his return to land.

Two weeks later, he was sitting in his cubicle at the _Newsweek_ offices overlooking Central Park, giggling to himself. “It was so much fun,” Hayden recalls. “I thought to myself, ‘This is it!’”

After he completed the internship, he was offered a job at _Newsweek_, where he edited and wrote for three years, before moving to his current plum position us well among future competitors.”

He compares his job to going to graduate seminars, in that he is constantly learning something new. Every week is a new story. “The work I do as a science reporter is strongly informed by the work I did at USC,” he acknowledges. He still maintains connections with his professors and colleagues, sometimes using them as sources in his articles.

When asked what one thing unifies his stories, he answers carefully. “A combination of a fascination with the way the world works,” Hayden details, “with a healthy dose of skepticism with how the scientific process works.”

—A.Y.K

Sea Grant’s Distinction

The USC Sea Grant Program was recently awarded top national honors by a program assessment team sent to evaluate the program. The panel from the National Sea Grant College Program and the National Sea Grant Office gave the USC program “highest performance” marks on 14 out of 15 rankings ranging from leadership of the program to contributions to education and outreach.

Founded in 1972, the USC Sea Grant program focuses exclusively on problems of the “Urban Ocean.”

“The high ratings facilitate the program’s ability to pursue additional federal or merit funding,” says Linda Duguay, director of the program. “This funding will serve to increase the size and stature of our program and position us well among future competitors.”

And the Winner Is...

The 23rd annual academic honors convocation on March 11 celebrated the accomplishments of USC College faculty, students and staff.

Werner Dippén, professor of physics and astronomy in the College received the Associates Award for Excellence in Teaching.

The Associates Awards for Creativity in Research and Scholarship went to Elyn R. Saks, the Orrin B. Evans Professor of Law and Professor of Law and Psychology, and Terence G. Langdon, professor of earth sciences, who has a joint appointment in engineering.

The Phi Kappa Phi Faculty Recognition Awards honored Leo Braudy, holder of the Leo S. Bing Chair in English and American Literature, for his book _From Chivalry to Terrorism: War and the Changing Nature of Masculinity_ (Knopf, 2003). Saks received an award for her book _Refusing Care: Forced Treatment and the Rights of the Mentally Ill_ (University of Chicago Press, 2002).

Gerald A. Larue, emeritus professor of religion, and Arnold S. Dunn, emeritus professor of biological sciences, received the Faculty Lifetime Achievement Awards.

David M. Chacko, Neil Vora and Nilay Vora won Phi Beta Kappa Undergraduate Awards.

The University Trustee Awards honored Chacko and fellow College students Serge Alexanian, Yago Barzari, Choong-Kyu Lee, Sallí R. Shah and Gene-Fu Feng Liu.

Diana Truong won the Josephine Bradley Bovard Award and Kale Harbick was awarded the Rockwell Dennis Hunt Award.

Phi Kappa Phi Student Recognition Awards went to Marcus Galen Mitchell and Devon O’Brien.

Tammara Seabrook Anderson, director of the College’s Joint Education Project, won the 2004 President’s Award for Staff Achievement.

—K.S.
**A Classroom Beyond Campus**

USC College Sociologist Kelly Musick crouches next to a table littered with papers and textbooks. “What brings you here?” she intently asks a fresh-faced teenage girl who softly answers, “I want a career.”

The conversation takes place in A Place Called Home (APCH), a neighborhood where 65 percent of households are below poverty level. Located just a few miles from USC’s University Park campus, it hosts youth and after-school programs; this particular class is for high school drop-outs who need tutoring to acquire their General Education Diplomas.

As an assistant professor of sociolgy, Musick requires her students to volunteer at local schools, service agencies and domestic violence shelters. In this particular case, she is integrating the community service into her course “Changing Family Forms.” Her students see first hand the family issues they are studying in class, such as the variation in family patterns and the structural constraints families face.

“I wanted the students to have experiences that would be different from their own, that would help them to understand the course material and its connection to some of the debates around the family and child welfare,” says Musick. “Some of our students have faced these issues growing up, but many haven’t.”

Musick recently received a grant from the Fund for Innovative Undergraduate Teaching to further integrate service learning into her courses. To provide “real world” data for research projects on family and community resources, she works in close collaboration with the College’s Joint Educational Project (JEP), a program that brokers between academic courses and service agencies and schools in the university’s community.

Lili Tan, a junior majoring in computer science, is a student in Musick’s class. “I live far from USC’s campus and so volunteering at APCH has really been a new and eye-opening experience for me.” —K.S.

**Reaching Out**

Tammara Seabrook Anderson, winner of the 2004 President’s Award for Staff Achievement, loves watching students grow and mature.

As director of USC’s Joint Educational Project (JEP) in USC College, she has helped thousands of students volunteer in the community and gain a better understanding of the world.

After more than two decades with JEP, Anderson received the accolade at the 23rd annual Academic Honors Convocation on March 11. “Working with students is the best part of the job,” she says. “I have so many stories of how the JEP experience has helped students understand more about their studies, themselves and their contribution to the world.”

There’s the freshman from Iowa who had never seen the inner city before volunteering at a local women’s shelter. And the sophomore business major who tutored children at Weemes Elementary School, one of USC’s Family of Schools.

“Tammara is a testament to the entrepreneurial and imaginative spirit that guides USC,” says College Dean Joseph Aoun. “Through her admirable work, she teaches students the value of giving back to their community, not just while they’re at USC, but throughout their entire lifetime.”

Anderson helped place USC in the spotlight in 2000 when the university was named Time magazine’s “College of the Year.” USC won that distinction for its highly regarded service learning program. Anderson and her counterpart at UCLA recently launched the Los Angeles Higher Education Partnership, which brings together service learning programs at 15 local universities and colleges.

“We both are inundated with requests for student volunteers by community groups,” she says. “We simply don’t have enough students to fill all the demand. We decided to get service learning programs at other colleges involved by setting up a networking group. This way we rarely have to turn down a request. Hopefully we can refer a group to another university.”

A graduate of USC with a bachelor’s degree in gerontology and a master’s in education, Anderson says she is dedicated to USC. “I love this university,” she says. “I can’t imagine being anywhere else.” —G.S.

**What’s News With You?**

USC College values the close-knit community created by its students, alumni, faculty and affiliates. That’s why we’re interested in learning about what you’ve been up to, and sharing it with your College family and friends. If you have some news you’d like to announce, please send the information to collegenews@usc.edu, or mail it to: USC College Magazine University of Southern California ADM 304, MC 4012 Los Angeles, CA 90089-4012
Distinguished and University Professorships

Three of the four professors who were appointed University Professor or Distinguished Professor this year teach in the College. USC President Steven Sample and a committee of Distinguished and University Professors have awarded Distinguished Professorships to Jean-Jacques Laffont, John Elliot and T.C. Boyle, Distinguished Professor of English. Thomas Jordan, W.M. Keck Foundation Professor of Geophysics and Professor of Earth Sciences, has been named University Professor.

On May 1, after the College Magazine went to press, Laffont died at the age of 57 from cancer. We will remember Laffont in the next issue of the College magazine. His obituary is posted online at www.usc.edu/schools/college/news/laffont.

Faculty News

Richard Meyer, associate professor of art history, edited Representing the Passions: Hochzeit, Rodin, Picasso. The collection explores the interplay between the experience of extravagant emotions and their expression in Western art, music and writing.

Sloan Fellowship

Ting Chen

Assistant Professor of Biological Sciences and Computer Science Ting Chen, who also holds a joint appointment in mathematics, received the Alfred P. Sloan research fellowship. Chen’s work exemplifies the creative spirit the fellowship promotes—he researches problems of reconstructing gene regulatory networks, sequencing DNA and peptides, constructing evolutionary trees and evolutionary distances and gene-finding and protein analysis.

Literary Cafés at California Club

Noël Riley Fitch, lecturer in the Masters of Professional Writing program and writer, recently presented her work, Literary Cafés of Paris, at the California Club in downtown Los Angeles.

New Faculty Advisor

Professor of Biological Sciences and Neurology William McClure has accepted an appointment as faculty advisor of the Baccalaureate M.D. program, succeeding Albert Herrera, professor of biological sciences.

Distinguished Alumnus

John P. (Jack) Crossley, associate professor of religion, was awarded Pepperdine College’s 2003 distinguished alumnus award. Crossley has served as graduate advisor, coordinator of graduate studies and director of the College’s School of Religion.

Goodwin Award of Merit

The American Philological Association awarded Associate Professor of Classics Clifford Ando the Goodwin Award of Merit for his book Imperial Ideology and Provincial Loyalty in the Roman Empire.

Linnell for President

81-year-old former USC College Chemistry Professor Robert H. Linnell was listed on the New Hampshire primary ballot in January. For Linnell, his presidential run is not about winning. He says, “I don’t want to win. I just want my voice heard.”

The Politics of Fear

Barry Glassner, the Myron and Marian Casden Director of the Casden Institute for the Study of the Jewish Role in American Life and College professor of sociology, recently spoke at a conference on “Fear: Its Political Uses and Abuses” at the New School University in New York. Former Vice President Al Gore opened the conference.

Ryskamp Fellowship

Assistant Professor of History Jason Glenn was awarded the American Council for Learned Societies’ Charles A. Ryskamp Fellowship for 2004-2006. Glenn’s latest work, Politics and History in the Early Twentieth Century: The World and Work of Roderick T. Young, will appear this year.

Fullbright Scholarships

Four USC College faculty were awarded Fullbright Scholarships. They are: Bettine Bierge, associate professor of East Asian languages and cultures, Teh-Lung Ku, the Wilford and Daris Zinnmeyer Chair in Marine Studies and professor of earth sciences, Loni Yukti Kurashige, associate professor of history and American studies and ethnicity, and Barry Schein, associate professor of linguistics.

Microbiology Meeting

Steve Finkel, assistant professor of biology, presented new research on possible mecha-nisms of mutation and evolution in bacteria at the 104th meeting of the American Society for Microbiology in New Orleans. He discussed his work on how and why mutation rates rise in E. coli in bacteria in stressful conditions.

Editing American Literature

Professor of English Carla Kaplan has been elected by the American Literature Section of the Modern Language Association to a three-year term on the board of editors of American Literature. As a member, Kaplan will evaluate up to 50 manuscripts a year.

Detecting Earthquakes

Te-liang Teng, professor of earth sciences, spoke at a December American Geophysical Union meeting regarding earthquake early warning systems. Teng researches theoretical and observational seismology, earth’s strong ground motion and earthquake prediction and tectonic mapping using seismological data.

A Career of Contribution

Professor of Earth Sciences Gregory Davis received the Geological Society of America’s 2003 Structural Geology and Tectonics Division Career Contribution Award for distinguished contributions that have advanced structural geology or tectonics.

Hebrew Tales Anthology

Moshe Lazar, professor of comparative literature, French and Italian and Spanish, wrote the foreword to Once Upon a Time…Maimonides, Traditional Hebrew Tales: An Anthology, published by the Henry J. Leir Library of Sephardic and collected by Tamar Alexander and Elena Romano.

Aboriginal Paintings

Ronald Gottesman, professor emeritus of English, co-curated an aboriginal painting exhibition at the L.A. Art Exchange in Santa Monica in March. "Outback and Way Ahead: Contemporary Aboriginal Paintings from Australia’s Central Desert," consisted of more than 35 recently completed paintings that represent several leading aboriginal art communities in Central Australia.

Speech Communication

Dani Byrd, associate professor of linguistics, spoke on the “Future of Speech Communication Research” at the 75th Anniversary Meeting of the Acoustical Society of America in New York. Byrd was one of nine “young scholars” invited to present at the session.

Leibovitz Award

Gerald A. Larue received the Leibovitz Award for distinguished volunteer service to seniors by a retired USC faculty member. Larue, 80, is an emeritus professor of religion. His most recent book is Playing God: 50 Religions Views on Your Right to Die.

Studies of Aging

Associate Professor of Biology John Tower twice shared his views on the oxidative theory of aging in the Science of Aging Knowledge Environment Web site this winter.

The American West

William Duveller, who joins the College next fall as a professor of history, edited a collection of 25 original essays by leading experts in the history of the American West. The book, A Companion to the American West, is a part of the Blackwell Companions to American History series.

Alumni News

Ambassadorial Nomination

The nomination of USC College alum Jack Dyer Crouch II (B.A., M.A., Ph.D. International Relations, ’87) to be Ambassador to Romania was announced by President George W. Bush. Crouch served as the current administration’s assistant secretary of defense for international security policy at the Department of Defense. He was also the principal deputy assistant secretary of defense for international security policy from 1990-92. Since 1992, he...
has been associate professor of defense and strategic studies at Southwest Missouri State University.

Akins Nominated for Literary Award

Morgan Akins (M.P.W., ’02) was nominated for the Pushcart Prize for her short story, “Twenty-First Century Girl,” a quirky tale of a transplanted woman’s first encounter with her potential in-laws in small town America. Writers first noticed by Pushcart include Raymond Carver, Tim O’Brien, John Irving and many more.

Alberti and “The Simpsons”


Honoring Zamperini

Former track star and World War II prisoner of war Louis Zamperini (B.A., Physical Education, 40) was honored with a plaza in his name at USC’s track and field stadium. Zamperini ran in the 1936 Berlin Olympics.

Student News

Students Attend Economic Conference

Tiffany Stone and Matthew Morgan

Matthew Morgan, economics and mathematics, Ike Song, economics, and Tiffany Stone, political science, were selected to present their papers on economic development at a conference in Afghanistan. The conference, “What is Economic Growth,” was organized by the Arizona State Economic University. Morgan and Stone attended.

CRCC’s Undergraduate Awards

USC College of Center for Religion and Civic Culture awarded 10 undergraduate research grants to students whose scholarship uses an interdisciplinary approach. Recipients include: Nina Hansra, a senior majoring in religion and biology, who interviewed Punjabi Sikh immigrants and people of Sikh descent to investigate how cultural expectations may affect health care; Jeffrey Rich, an astronomy and Russian major, analyzed the Russian icon as an artistic artifact; Judy Vy-Nyen Can, a senior psychology major, helped anthropologist professor, Janet Hoskins, study the syncretic Vietnamese religion Gсадай. Sophomore business major Brett Strom studied ancient Roman seals. Jack Lam, a junior majoring in public policy and political science, and Natalie Golnazarian, who graduated in December, had their photographs of Boyle Heights, an old Jewish neighborhood in L.A., on exhibit at the Ralph and Molly Lewis Hall Gallery in the School of Policy, Planning, and Development from January to April. Michelle Menses, Liz Ontaneda, Alexandra Wetzell and Wendy White also received awards.

Obituaries

James Pursell, athlete and coach, 103

James Pursell (B.A., Physical Education, ’24), USC’s oldest surviving football letterman, died Jan. 25. Although he weighed but 130 pounds, Trojan Coach Elmer “Gloomy Gus” Henderson was impressed by his grit and put him on the team. Pursell lettered for three seasons. A football and track coach for 35 years, he coached a spinner who won an Olympic gold medal. Pursell drove his car and played golf until he turned 100.

Anita Ammerman Mason, teacher, swimmer and singer, 67

Anita Ammerman Mason (B.A., Religion and English, ’55) died on Feb. 28, 2004. Mason received two bachelor’s degrees from the College as well as a teaching credential. She was a competitive swimmer and a singer.

Bernard Pusnly, member of “Dead End Kids,” 80

The last surviving member of the “Dead End Kids,” Bernard Pusnly (B.A., ’43) died on January 19, 2004. Pusnly started in films in the 1930s and 40s and paved the way for the Bowery Boys. Later a doctor, he served as chief of medicine at Little Company of Mary Hospital in Torrance.

Mauro Deigh, mental health pioneer, 80

Maurice Deigh (Ph.D., Psychology, ’51) died on February 5, 2004. A clinical psychologist and senior activist who pioneered mental health programs in public health, Deigh served in the L.A. County Department of Mental Health; founded the Southern California chapter of the Gray Panthers, a senior citizens advocacy group, and was appointed to a term on the L.A. commission on aging.

Albert Tillman, popularized scuba diving, 75

A pioneer in teaching and certifying scuba diving, Albert Tillman (B.A., ’39), died on January 16, 2004. In 1953, he started L.A. County’s first public classes in scuba and scuba diving. While teaching at Cal State Los Angeles, Tillman created the first university degree program in recreation and leisure studies. He was one of the original inductees into the International Scuba Diving Hall of Fame.

McArthur “Mac” Byrd, football player and avid horseman, 61

McArthur “Mac” Byrd (B.S., ’65) died on January 22, 2004. He was a football player on the USC 1962 national championship team, the 1963 Rose Bowl team and professional player with the L.A. Rams and Washington Redskins. Byrd also was the Executive Vice President of American Pacific Securities.

Earl Harold Phillips, Woodrow Wilson fellow and historian, 77


Richard C. “Dick” Dryer, world traveler and sportsman, 71


USC College of Letters, Arts & Sciences

Board of Councilors

Robert F. Erbruch, Chairman
Joan Abrahamson
Mark Benjmain
Joy V. Berger
Robert Beyer
George N. Boone
Grégory Brakovich
Robin Brody
Susan Cauden
Richard W. Cook
James S. Corfman
Robert Dockson
Allen Gilbert
Irene Gold
Jana Waring Greer
Patrick C. Haden
Gary R. Hooper
George “Chip” Hughes
Stephen G. Johnson
Suzanne Nora Johnson
David Y. Lee
Katherine Lohr
Serghed G. Papadiaz
Debra L. Reed
Alicia Smotherman
Rosemary Tomich

Administration

Joseph Aoun, Dean
Donal Manorahan, Dean of Research
Beth Meyerowitz, Dean of Faculty
June Thames Poust, Senior Associate Dean for Advancement
Sarah Pratt, Dean of Academic Programs
Margo Strebaut, Senior Associate Dean for Business Affairs
Roger D. Stewart, Senior Associate Dean for Administration and Planning

USC College Relations

Alfred Kildow, Executive Director
Nicole St.Pierre, Associate Director

USC College Magazine

Nicole St.Pierre, Editor
Staff Writers:
Eva Emerson, Katherine Yungmee Kim,
Katif Solmme
Contributing Writers:
Gia Scafidi, Gullen Silaby, Usha Suratff
Merlyn Stigger, Administrator
Kathy Yoshihata, Designer

USC College Magazine is published three times a year by the USC College of Letters, Arts & Sciences at the University of Southern California. Permission to quote or republish is given freely; Attribution to “USC College Magazine” is appreciated.

Please send all correspondence to:
USC College Magazine
c/o Meryl Stigger
ADM 310
Los Angeles, CA 90089-5014
collegemag@usc.edu

VOLUME 5 NUMBER 3
Summer/May 2004
23
The Design of Small Things
Creating software to design new nanotechnologies

After a decade of research and billions of dollars in federal funding, scientists have yet to make good on the initial promises of nanotechnology. Scientists have made progress in their ability to move and rearrange atoms at will, fabricating tiny carbon nanotubes, nanowires and quantum dots, objects some 10,000 times smaller in girth than a human hair. But overall, with no applications yet commercialized, nanotechnology remains in the realm of the lab and is not as important or as common as predicted.

Now, USC College physicist Stephan Haas and electrical engineer Anthony Levi have teamed up to build a computer program they expect will lead to a more systematic approach for the design of ultra-small devices—and spur the creation of new applications. The duo’s interdisciplinary collaboration promises to advance quantum theory, computational modeling and the way engineers design new systems. The same time, they are defining a new field they call adaptive systems—like what we can learn from the way nature works, to create a design tool for nanotechnology. As a scientist, I study fundamental physics and astronomy. We want to create the design tool for nanotechnology. Haas and Levi’s software led to the design shown on this piece of Teflon (created by graduate student Ioan Gheorma)—tiny crystals used in nanotechnologies can be built with the same pattern.

Functions Made to Order

“If nanotech is to succeed it must have design tools similar to the sophisticated software used to design circuits in electronics,” says Levi, a professor in the Viterbi School of Engineering who holds a joint appointment in the College physics and astronomy department. “We want to create the design tool for nanotechnology—harnessing ideas to enable new designs for atomic, laser and millimeter-wave (used in wireless communication) components. Many of the computer-generated designs look nothing like anything a person would ever think up. And that’s exactly the point, says Levi, a leading researcher in fiber optics, electronics and the design of new technologies and systems. “A computer is unbiased by past experiences or standard ideas of design, so instead of designing something ad-hoc, it is systematic. It searches through a near infinite number of geometric shapes or configurations to find the one that best fits,” Levi says.

“We’re doing everything in reverse. Like the TV show Jeopardy, we start with the solution.”

Once the computer comes up with the optimal design, Levi can manufacture a physical version to test in experiments. Data from the experiments helps improve the software.

The search for the optimal configuration—like looking through many haystacks for one needle, Levi quips—is an extensive one and would not have been possible without the computational power of USC’s High Performance Computing Center. Calculations that could take a regular desktop more than one year can be done in a single day. And that’s key.

“What we’re doing would not have been possible five years ago, because we just didn’t have the computer power,” says Haas, who leads development of the software. For Levi, the intellectual appeal of the project lies in creating software that can come up with better, novel solutions. “I’m interested in how the machines can teach us. We’ve had to think hard about why the machine chooses certain designs,” Levi says.

The patterns can even challenge scientists’ basic understanding of the physical world, and lead to the fundamental discoveries that most interest Haas. —F.E.