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Report Details Economic Impact of UC Santa Barbara, UC

The University of California is a key economic catalyst for the state, generating $46.3 billion in annual economic activity for California, and contributing $32.8 billion toward the state’s gross state product through direct spending and multiplier effects, according to an independent economic impact report.

The study, “The University of California’s Economic Contribution to the State of California,” is the first UC economic impact report conducted on a systemwide level since 2003.

UC Santa Barbara’s economic impact on the state and on the local community is also enormous. Conferring over 6,500 degrees each year, primarily to students in the College for Letters and Science and the College of Engineering, UCSB plays a key role in enhancing the skills and productivity of the state’s workforce. In addition, research centers and institutes focused on topics in the sciences, social sciences, and humanities bring not only advancements in productivity, but also new technologies and products, all of which contribute to the economic health of the state and region.

The campus’s $1 billion impact accounts for 5.3 percent of the Santa Barbara County economy, making it one of the county’s single biggest economic engines. From Gaviota to Ventura, UCSB represents 11.6 percent of the local economy, with UCSB the largest employer in Santa Barbara County. Of the $295 million spent on annual employment, 93 percent stays within the county, paying $275 million to local businesses and employees. Further, UCSB students bring dollars to the local area, spending $223 million on housing, and another $64 million on food and entertainment.

UCSB graduates and faculty members have founded more than 90 local companies, and every dollar spent by UCSB campus operations yields an additional 72 percent benefit to the Santa Barbara economy.

In addition, faculty, staff, and students provide significant financial support to local charities in the tri-county region. In 2004, faculty members donated $1.2 million, at an average of $1,410 per person; staff members donated $2.7 million, at an average of $1,154 per person. In the same year, undergraduate and graduate students donated a total of over $1.3 million.

A NEW YEAR: Chancellor Henry T. Yang (from left), Executive Vice Chancellor Gene Lucas, and Henning Bohn, chair of the Academic Senate, are shown during the processional for the New Student Convocation on the Faculty Club Green. More than 5,000 new freshmen and transfer students attended the ceremony on September 19.

Shuji Nakamura

Materials Professor Nakamura Wins Technical Emmy Award

And the Emmy goes to ... Shuji Nakamura, professor of materials and of electrical and computer engineering. Nakamura became the first UC Santa Barbara faculty member to win an Emmy when the National Academy of Television Arts & Sciences announced that he is among the recipients of the 63rd Annual Technology & Engineering Emmy Awards. The award will be presented during the International Consumer Electronics Show in Las Vegas in January.

The awards honor outstanding achievement in technical or engineering development, and recognize individuals, companies, and scientific or technical organizations for developments in engineering technology that have significantly impacted broadcast television. Nakamura is being recognized for his pioneering development of large-venue, large-screen direct view color displays.

Nakamura, who is also co-director of the campus’s Solid State Lighting & Energy Center, is one of only a small number of academics to be so honored since the Technology & Engineering awards were established in 1948.

“I am very pleased to receive the Technology and Engineering Emmy Award for my work leading to high-efficiency blue, green, and white LED’s, which are now used in backlighting LCD TV’s, mobile devices, large-screen direct view color video screens, and, eventually, general illumination,” said Nakamura.

UCSB-Based Thoreau Edition Receives $245,000 Grant

The National Endowment for the Humanities has awarded a $245,000 grant to The Writings of Henry D. Thoreau, a projected 28-volume series of the work of the 19th-century American naturalist and social philosopher. The Thoreau Edition, which has been headquartered at several universities across the country since its inception in 1966, is now located at UC Santa Barbara’s Davidson Library.

The grant, which includes $45,000 in matching funds, will support the editorial work and preparation for Thoreau’s “Correspondence,” a three-volume collection that will include all the letters written and received by Thoreau from 1834 until just before his death in May 1862. The correspondence series continues a scholarly endeavor that began more than four decades ago. When completed, the Thoreau Edition will also include the contents of all 47 volumes of Thoreau’s handwritten Journal, his writings for publication,
need for calculations and simulations. It will fulfill the computing power of 12 Tera-
FLOPS, or 12 trillion floating point operations per second. With 61
million computing cluster based in Elings Hall.

The UCSB carillon was a gift from Thomas Storke, then-publisher of the Santa Barbara News-Press. With 61
bells, it is considered one of the finest instruments of its kind in the world.

A Power Surge for Campus’s Large-Scale Computing

The Center for Scientific Computing (CSC) has expanded computing resources for campus researchers with a state-of-the-art, high-performance, $1 million computing cluster based in Elings Hall.

The new Hewlett-Packard cluster has the computing power of 12 Tera-
FLOPS, or 12 trillion floating point operations per second. It will fulfill the need for calculations and simulations

that are too large for desktop computers or workstations, but below those normally run at the handful of national supercomputing centers.

For research groups that do very large calculations at national super-
computing centers, the new system provides a test bed for code development and testing before a project is moved into production on a super-
computer.

“UCSB has an acute need for large-scale computation across a wide array of disciplines,” said Frank Brown, professor in the Department of Chemistry and Biochemistry, principal investigator of the new comput-
ing cluster, and co-director of CSC. “The new cluster will be a powerful resource for many research groups and for students who will use the system in their coursework and thesis projects.”

Sustainability Successes Range From Chemistry to Kohn Hall

Evidence of UC Santa Barbara’s sus-
tainability success stories could be
found throughout the campus this
year, starting with Bruce H. Lipshutz, pro-
fessor in the Department of Chemistry and Biochem-
istry, who was awarded the 2011
Presidential Green Chemistry Challenge Award during a
ceremony at the Ronald Reagan Build-
ing in Washington, D.C.

The award recognized Lipshutz’s pioneering
use of nanotechnology to do important transition metal-catalyzed reactions in water at
room temperature. Neither organic sol-
vents nor additional energy in the form
of heating or cooling are needed for these processes. “This award presents a special op-
portunity for me to share our passion for green chemistry — for offering our vision as to the
to our contributions can play in sustainability,” said Lipshutz.

In July, Kohn Hall, home of the Kavli Institute for Theoretical Physics, was awarded Leadership in Energy and Environmental Design (LEED) Silver certification by the U.S. Green
Building Council. Kohn Hall, named for UCSB’s Nobel Prize-winning physicist Walter Kohn, received the LEED Silver certification in the Existing Building category.

And in October, the campus hosted the first-ever South Coast Sustainability Summit at the Loma
Pelona conference center. The suc-
cessful summit brought together
officials and staff members from area municipalities and community orga-
nizations to discuss common issues in energy, transportation, waste, and water management.

Pinpoints

U.S. News & World Report ranked UC Santa Barbara number 10 in its
annual listing of the “Top 50 Public National Universities” in the coun-
try, and number 42 on its list of the “Best National Universities.” UCSB
was ranked number 35 in a list of the world’s top 200 universities released by Times Higher Education, a British periodical. Among U.S. universities, UCSB was ranked number 24.

The International Solvay Institutes presented a special “Solvay Cente-
nary Chair” to David J. Gross, No-
bel laureate in physics, for his seminal contributions to particle physics and string theory. Gross holds the Fred-
erick W. Gluck Chair in Theoretical Physics at UC Santa Barbara and is director of UCSB’s Kavli Institute for Theoretical Physics. Gross came to UCSB in 1997.

President Obama named two faculty members as recipients of the Presidential Early Career Award for Scientists and Engineers. The award is the highest honor the nation can bestow on a scientist or engineer at the beginning of his or her career.

Benjamin Mazin, assistant profes-
sor in the Department of Physics, and
Sumita Pennathur, assistant professor in the Department of Mechanical Engineering, were among 94 indi-
viduals across the country to receive the early career awards.

Laura Romo, associate professor of education, is the new director of the campus’s Chicano Studies Institute. Romo received her Ph.D. in psychology from UCLA, and joined the UC Santa Barbara faculty in 2003.
RESEARCH

An Important Boost for Stem Cell Research

Stem cell research at UC Santa Barbara got a huge boost with the announcement that Pete Coffey, an internationally prominent researcher working on stem cell biology and the prevention of blindness, will begin work soon as a full-time researcher. Coffey will direct UCSB’s Center for the Study of Macular Degeneration, and will also work with the campus’s Center for Stem Cell Biology and Engineering. Both centers are part of the California Stem Cell Research Foundation (CIRM), which provided a grant to recruit Coffey, who is currently the director of the London Project to Cure Blindness.

“To work with the UC Santa Barbara group — the stem cell and macular degeneration centers — is truly exciting,” said Coffey.

“Pete Coffey is not only a boon to UCSB, but to the entire state of California,” said Kenneth S. Kosik, co-director of UCSB’s Center for Regenerative Medicine (CIRM) provided a grant to recruit Coffey, who is currently the director of the London Project to Cure Blindness.

“This unique, industry-leading institute will give Dow direct access to breakthrough technologies and enable new opportunities for greater innovation, while developing our pipeline of future scientists and engineers,” said Theresa Kotanchek, vice president of Dow Innovation, while developing our pipeline of future scientists and engineers. Dow Chemical Company is dedicated to inspiring a new age of scientific achievement in the United States through collaborative research and innovations with industry, thereby serving as a catalyst to transform people’s lives,“ said Craig J. Hawker, director of the Dow Chemical Company’s Materials Research Laboratory (MRL). This Dow award is also included postdoctoral scholar Andrew Bonham.

Dow Awards $15 Million for New Materials Institute

The Dow Chemical Company has awarded $15 million to UC Santa Barbara to establish a collaborative research initiative that will help shape the future of technology in areas that will benefit society. The Dow Materials Institute at UCSB will educate future scientists and engineers and advance the discovery of revolutionary new materials with applications that range from novel polymers to next-generation microelectronics.

The pioneering institute will be housed in the Materials Research Laboratory (MRL), a National Science Foundation Materials Research Science and Engineering Center that is widely recognized as one of the top materials research facilities in the world. UCSB is among 11 leading U.S. research universities that have partnered with Dow to “accelerate research and stimulate collaborative innovation in traditional scientific fields important to the company and the nation’s future.”

“This new partnership with the Dow Chemical Company is dedicated to inspiring a new age of scientific achievement in the United States through collaborative research and innovations with industry, thereby serving as a catalyst to transform people’s lives,” said Craig J. Hawker, director of the Dow Chemical Company.

“UCSB is one of the key centers for research and innovation in traditional scientific fields important to the company and the nation’s future.”

“This unique, industry-leading institute will give Dow direct access to breakthrough technologies and enable new opportunities for greater innovation, while developing our pipeline of future scientists and engineers,” said Theresa Kotanchek, vice president of Dow Innovation Source at Dow.

Findings

Two UC Santa Barbara astrophysicists and the Las Cumbres Observatory Global Telescope Network (LCOGT) played key roles in recent discoveries that had astronomers around the world atwitter. Andy Howell, adjunct professor of physics at UCSB and staff scientist at LCOGT, was one of the astronomers who discovered a supernova closer to Earth — approximately 21 million light years away — than any other of its kind in a generation. Scientists around the world scrambled to observe it with as many telescopes as possible, including telescopes from the UCSB-affiliated LCOGT. “As soon as I saw the discovery image I knew we were onto something big,” Howell said. Astrophysicist Avi Shporer, meanwhile, was part of the NASA team that found the first known binary planet with two “suns.” The study by Shporer and others reported the first clear detection of a circumbinary planet. The system, called Kepler-16, is the 16th planetary system discovered by NASA’s Kepler space telescope. “It is the combination of the unprecedented precision and the continuous observations from space that allowed the detection of Kepler-16,” said Shporer, who’s also a researcher with the LCOGT.

• Sensors made from custom DNA molecules could be used to personalize cancer treatments and monitor the quality of stem cells, according to a team of researchers led by scientists at UC Santa Barbara and the University of Rome Tor Vergata. The new nanosensors can quickly detect a broad class of proteins called transcription factors, which serve as the master control switches of life.

“The fate of our cells is controlled by thousands of different proteins,” said Alexis Vallée-Bélisle, a postdoctoral researcher in chemistry and biochemistry, who led the study. “The role of these proteins is to read the genome and translate it into instructions for the synthesis of the various molecules that compose and control the cell.”

Kevin Plaxco, professor of chemistry and biochemistry, organized the international research team, which also included postdoctoral scholar Andrew Bonham.

A team of scientists from the Center of Evolutionary Psychology conducted a series of computer simulations designed to test the generally accepted theory that evolution would select against generosity in situations where there is no future payoff. Their work surprisingly shows that generosity — acting to help others in the absence of foreseeable gains — emerges naturally from the evolution of cooperation. They concluded that human generosity is likely to rest on more than social pressure, and is instead built in to human nature. “Our simulations explain that the reason people are more generous than economic and biological theory would predict is due to the inherent uncertainty of social life,” said Andrew Delton, a postdoctoral scholar at the center. Delton and Max Krasnow co-authored the study with Leda Cosmides, professor of psychology, and John Tooby, professor of anthropology. Cosmides and Tooby are co-directors of the Center for Evolutionary Psychology.

Scientists from the Department of Earth Science have been at the forefront of the research documenting...
the impact of the 2010 Deepwater Horizon oil spill in the Gulf of Mexico. In a new study, a team led by geochemist David Valentine explains how the researchers used DNA to identify microbes present in the Gulf following the oil spill, and how they identified the microbes responsible for consuming the large amount of natural gas present immediately after the spill. They also explain how water temperature played a key role in the way bacteria reacted to the spill. The research was coordinated by Molly Redmond, a postdoctoral scholar in Valentine’s laboratory. Meanwhile, Uta Passow, a researcher with the Marine Science Institute, received new funding from the Gulf of Mexico Initiative to continue her analyses of new funding from the Gulf of Mexico Marine Science Institute, received Uta Passow, a researcher with the Valentine’s laboratory. Meanwhile, A sediment trap is deployed in 2010 near the spill site.

Biotags on prostate cancer cells

Researchers developed a breakthrough technology that can be used to discriminate cancerous prostate cells in bodily fluids from those that are healthy. While the new technology is years away from use in a clinical setting, the researchers are confident that it will be useful in developing a microdevice that will help in understanding when prostate cancer will metastasize, or spread to other parts of the body. “The higher the number of cancer cells there are in the patient’s blood, the worse the prognosis,” said lead author Alessia Palladino, postdoctoral fellow in the Department of Chemistry and Biochemistry. “It would be really important to be able to find them and recognize them within blood or other bodily fluids. This could be helpful for diagnosis and follow-ups during treatment.”

Gary Braun, a postdoctoral scholar in the Department of Molecular, Cellular, and Developmental Biology, was second author and the senior author, Martin Moskovits, professor of chemistry and biochemistry, was the senior author.

Prospects

Thanks to an $80,655 grant from the Institute of Museum and Library Services, the Cheadle Center for Biodiversity and Ecological Restoration (CCBER) will complete the curation, documentation, cataloging, and database processing of its 24,875 herpetological, ornithological, and mammalian specimens. The two-year Vertebrate Collections Management Project will allow CCBER to hire a curatorial assistant, create a new museum internship program, and curate its collections of reptiles, birds, and mammals according to national standards.

The campus will receive more than $14 million over five years in two awards from the U.S. Department of Defense’s Multicampus University Research Initiative (MURI) program. “This is a very competitive program, and these two UCSB-led groups were reviewed to be at the top in their field,” said Michael With-erell, vice chancellor for research. David Awschalom, director of the Center for Spintronics and Quantum Computation, is the principal investigator on a $7.5 million award for “Quantum Memories in Photon-Atomic Solid State Systems.” Kwang-Ting “Tim” Cheng, professor in the Department of Electrical and Computer Engineering, is the principal investigator of a $7 million award for developing solutions for building new three-dimensional integrated circuits that combine current integrated circuit technology with a novel nanomemristor technology.

For more information on these and other exciting UCSB research developments, visit www.ucsb.edu.

Big Steps Toward Quantum Computing

Scientists continue to make significant progress in the quest for a quantum computer, which will use quantum mechanics to revolutionize the way information is processed.

Physicists working at UC Santa Barbara and the University of Konstanz in Germany achieved a breakthrough in the use of diamond in quantum physics, viewed as an important step toward quantum computing. The physicists were able to coax the fragile quantum information contained within a single electron in diamond to move into an adjacent single nitrogen nucleus — and then back again — using on-chip wiring.

“This ability is potentially useful to create an atomic-scale memory element in a quantum computer based on diamond, since the subatomic nuclear states are more isolated from destructive interactions with the outside world,” said David Awschalom, director of UCSB’s Center for Spintronics and Quantum Computation, professor of physics, electrical and computer engineering, and the Peter J. Clarke director of the California NanoSystems Institute.

Awschalom said the discovery shows the high-fidelity operation of a quantum mechanical gate at the atomic level, enabling the transfer of full quantum information to and from one electron spin and a single nuclear spin at room temperature. The process is scalable, and opens the door to new solid-state quantum device development. The lead author was postdoctoral fellow Greg Fuchs.

In July, Susumu Takahashi, a former postdoctoral researcher at UCSB’s Institute of Terahertz Science and Technology in the Department of Physics, and his colleagues published a study in which they showed how they managed to suppress decoherence, one of the key stumbling blocks in quantum computing. Takashi’s supervisor at UCSB was Mark Sherwin, professor of physics and director of the Institute of Terahertz Science and Technology.

In September, UCSB physicists announced that they have demonstrated a quantum integrated circuit that uses classical computing architecture. In this study, the physicists showed that long-lived quantum random access memory can be programmed using a quantum central processing unit, all constructed on a single chip, providing the key components for a quantum version of a classical computer. The hardware is based on superconducting quantum circuits, and must be cooled to very low temperatures to display quantum behavior. It is viewed as a significant step in quantum information processing, and shows that quantum large-scale-integration is within reach.

The UCSB experiment was pursued primarily by Matteo Mariantoni, postdoctoral fellow in physics, under the direction of Andrew N. Cleland and John M. Martinis, both professors of physics.
Long before there was News of the World, People magazine, and CNN, and centuries before celebrity gossip focused on Lady Gaga, Prince William, and Kate Middleton, there was a form of storytelling that rivaled today’s tabloid journalism with its reliance on sensationalism. They were English broadside ballads, printed stories of the day that were set to popular music.

The highly ornamental ballads were the most disseminated form of print in England between 1500 and 1800. Produced by the millions for the masses, they cost next to nothing — a halfpenny to a penny — and satisfied the public’s hunger for gossip, scandal, lurid tales, news, and entertainment. The street literature of the period became a commodity of mass communication, somewhat akin to the National Enquirer.

“Music was everywhere at the time,” explains Patricia Fumerton, professor of English and director of UC Santa Barbara’s English Broadside Ballad Archive. “A day wouldn’t go by without singing. It was part of life. When you hear these tunes you realize they fit perfectly with manual labor, such as a cobbler hammering or a weaver at a loom. People would sing while walking down the street, in markets, and together in the evening.”

The ballads were printed on one side of a single sheet of paper (hence the name “broad-side”) with eye-catching woodcuts,
The English Broadside Ballad Project, which has provided new insights into Renaissance culture, has passed the halfway mark in its effort to catalog the approximately 8,000 surviving broadsides, making the street literature accessible as texts, art, and music.

Since the project was launched eight years ago, more than 200 people have contributed to the award-winning Internet archive, including UCSB musicologists, art historians, and 70 singers.

“The engine that drives this undertaking is our students,” says English Professor Patricia Fumerton, project director. Undergraduate and graduate students serve as apprentices, transcribing complicated texts, cataloging illustrations, and helping to decipher the printing practices of the period.

In 2009, the archive received the prestigious British Society Digital Eighteenth-Century Prize for best digital resource supporting studies of the period.

To view the online collections and listen to recordings of the street ballads, visit the project’s Web site: http://ebba.english.ucsb.edu.

UCSB doctoral students who serve as EBBA project managers.

“it is extraordinary as a scholar to stumble across something that is so multifaceted and appeals to so many people,” says Fumerton. “i owe our success entirely to my talented team, particularly to our students.”

Both Caroline Bennet and Andrew Riggin have worked for the EBBA for several years. With an M.A. in music from UCSB, she also researches tunes. Riggin, a recent graduate, continues to record ballads for the project.

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Changing Interactions

SOCIOLoGIST SAYS OFFERING SUPPORT, OPPORTUNITIES IS KEY TO ALTERING BEHAVIOR OF YOUNG DELINQUENTS

By Andrea Estrada

Were it not for the Oakland police officer who gave Victor Rios a pass the day he caught him instigating a fight with a rival gang member in front of the local high school, the UC Santa Barbara assistant professor might be lecturing to prison inmates rather than university students.

“I’d probably still be part of the system based on that one crime,” says Rios, a gang member turned academic. The police officer should have arrested him for committing a gang crime, he continues, which would have landed him in juvenile hall for a few months and then on probation for a few years.

“And in juvenile hall, I would have fought, and when I got out, I would have broken probation and committed other harder crimes, and probably ended up in prison,” he says.

But that police officer, who happened to know Rios, “did something different,” Rios recalls. The police officer took into account the fact that Rios hadn’t brought along a weapon or “a crew,” as was his usual style. “He measured me by my personal progress,” Rios continues. “I was just hanging out in that area, causing a little fight on my own. So he let me slide. But he talked to me. He asked me questions and got me to open up to him.”

That interaction proved to be a turning point in Rios’s life, a GPS, so to speak, that set him on the road to education rather than incarceration. Other individuals — teachers, counselors, mentors, and employers — also contributed to his success by offering support and opportunities at the exact moment he needed them.

And that, he says, is the key to changing the behavior of young gang members and delinquents — providing the right type of support at the right time. “There are a lot of social programs out there for these kids, but they just aren’t the right kind,” Rios says. For his new book, Punished — Policing the Lives of Black and Latino Boys (New York University Press), Rios returned to his hometown of Oakland and spent three years shadowing a group of 40 Latino and African American boys who were caught up in a vicious cycle of delinquency and punishment. He examined the harassment, profiling, and general discipline these boys received — even before they had committed any crimes — and describes how they accomplished exactly what was expected of them.

“If you look at the kids in the book, most of them are just trying to survive, to make do with what they have in an environment that has, over time, systematically stripped them of their dignity,” Rios says. Dignity, a point Rios stresses in his book. “People commit crime because they’re detached,” he says. “If you empathize with a fellow human being, you’re going to think twice about hurting him. Likewise, if you’re attached to your community, you’re going to think twice about doing something like tagging.”

The way to create attachment, he asserts, is by making people feel dignified. And dignity comes from positive interactions with people in authority. That doesn’t mean they shouldn’t be held accountable for their actions, however. “Dignity and respect are two different things,” Rios explains. “These kids deserve dignity, but they don’t always deserve respect. They have to earn that through a kind of restorative justice.” That means the tagger takes a can of paint and cleans up his graffiti. And the kid who steals his neighbor’s car apologizes for his actions and finds a way to make restitution.

“We can change how young people interact with each other and with their environment by providing opportunities for them to enhance their dignity,” he says.
From its humble beginnings in ramshackle trailers at Campus Point in the early 1970’s, UC Santa Barbara’s Marine Science Institute has grown into one of the most powerful incubators of marine research in the world.

On any given day, you might find Marine Science Institute researchers off the coast of Moorea, in the icy waters of Antarctica, on the arctic tundra of Alaska or Greenland, in the highest elevations of the Sierra Nevada, in the watersheds of the Santa Ynez Mountains, or off the coast of Santa Barbara. They might be studying kelp forests, judging the impact of ocean acidification, searching for ocean viruses, or monitoring marine protected areas. Their
Sustainable Fishing, With a Catch

Steven Gaines and Christopher Costello are renowned for their comprehensive studies of the world’s fisheries. Gaines, dean of UC Santa Barbara’s Bren School of Environmental Science & Management, and Costello, professor of environmental and resource economics at the Bren School, answered questions about the future of sustainable fishing.

Q: What's on the front burner for the Sustainable Fisheries Group now?

A: Gaines: We’ve recently completed an analysis that lets us see for the first time how more than 10,000 fisheries in the world are doing. Previous assessments of global fisheries tended to be based on detailed analyses available for only about 200 of the biggest, most well known fisheries in the developed world. So there was this question of whether they were giving us a biased picture of how well fisheries were doing globally. We developed new modeling technology that allows us to analyze the status of thousands of fisheries, even if all they have is their catch records for a couple of decades.

So how are the fisheries doing?

Gaines: There have been a lot of successes in terms of reforming bigger fisheries in the developed world, for which there is ample data. But data-poor fisheries in the developing and developed world are doing substantially worse, so we need to focus our attention on them. One problem, however, is that many of the tools that work in data-rich, large-scale fisheries are unlikely to be successful in small fisheries that lack data.

What’s the solution?

Gaines: Various researchers around the world, including those in Bren Professor Hunter Lenihan’s group, have been developing ideas about how, in a data-poor fishery, you can capture perhaps 80 percent of the benefit in terms of being able to manage the fishery effectively while having only 5 percent of the data. These new techniques allow for effective management in places where you don’t have a lot of resources.

Costello: Paralleling those efforts, we’re also working with our non-governmental partners in Indonesia, the Galápagos, Alaska, Cuba, Mexico, Belize, Peru, and Bangladesh on pilot projects to test several fisheries management tools: spatial exclusivity, spatial exclusivity combined with marine protected areas (MPAs), fishing cooperatives, and third-party certification of sustainably harvested seafood.

Can you give an example of how these tools might help preserve fisheries?

Costello: Sure. Take fisheries certification, which refers to certification by the Marine Stewardship Council or some other similar entity. You go into, say, Whole Foods and see a label that tells you something is sustainably harvested. The question is, what is the role of such third-party seafood labels in motivating fisheries to reform?

Suppose consumers have a preference for sustainably managed fish and are willing to pay $5 more a pound for sustainably caught salmon than for regular salmon. The theory is that, if fishermen make more money because they can access a new market that pays higher prices for fish, and some of the extra price premium trickles down to them, then the fisheries managers will run the fishery more sustainably.

But it’s not at all clear that there is any price premium, because most people in the world don’t care whether or not they’re eating sustainably harvested fish. So the angle we’re pursuing is that it’s not about the consumer demanding it; it’s about the supplier wanting to lower long-run supply costs by producing fish in the most sustainable way possible. If you keep overfishing fish stocks, it costs in the long run.

The idea is that a motivation for labeling seafood is not to tell the consumer that something is green; it’s to help the producers find the sustainable pathways to lowering their long-term costs. The fish are not higher priced, but the fishermen can make more money by sustaining the fishery.

Q: Can you give an example of how these tools might help preserve fisheries?

A: Gaines: Various researchers around the world, including those in Bren Professor Hunter Lenihan’s group, have been developing ideas about how, in a data-poor fishery, you can capture perhaps 80 percent of the benefit in terms of being able to manage the fishery effectively while having only 5 percent of the data. These new techniques allow for effective management in places where you don’t have a lot of resources.

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— Interview by James Badham
scientist, you want to work at a place like this. There's no other way to put it."

The 1969 Santa Barbara oil spill, widely viewed as the spark for the nation's environmental movement, was also responsible for the birth of MSI. "The awareness that created the need to understand the local environment prompted UCSB to create MSI the following year," Brzezinski says. "It's always been a hub for intellectual activity in marine studies on campus."

The Marine Science Research Building, constructed in 2004, was seen as the solution to the institute's need for more space. "We went from a series of small shacks to this beautiful marine science building," Brzezinski says. "You think you're going to have this wonderful new facility that's going to allow you to grow and do all of the things you want to do, but the reality is that within six months we filled the place to the gills."

MSI includes ladder faculty — tenure-track professors who are based in departments all over campus — and researchers who are appointed through MSI. They are full-time researchers who are funded through grants. Before the MSRB was built, those professional researchers had to partner with faculty members to gain access to a lab. Now, at MSRB, there's lab space for individual researchers and for those who are working as part of larger team efforts — space used to foster interdisciplinary work.

A big point of pride for MSI is the involvement of undergraduates in all of the research programs. Hundreds of students get hands-on experience in labs and in the field.

"We — MSI collectively — offer a tremendous research experience to undergraduates at this university," says Dan Reed, a research biologist at MSI. "We support a lot of graduate students as well. It's one of the big benefits of coming to a UC school."

MSI is also home base for a large number of postdoctoral researchers. "So, even though we are not on the books as being a part of the academic mission of UCSB, we certainly play very significant roles — from undergraduates, to graduates, to postdocs," Brzezinski says.

Perhaps the best example of MSI's powerful research is provided by UCSB's two Long Term Ecological Research (LTER) projects — the Moorea Coral Reef LTER and the Santa Barbara Coastal LTER. Funded by the National Science Foundation, the LTERs are a collaborative network of more than 1,100 scientists and students in 26 sites investigating ecological processes over long temporal and broad spatial scales.

The 26 LTER sites cover a wide range of habitat types — rain forests, deserts, grasslands, coral reefs, kelp forests, urban areas, and arctic tundra.

Reed is principal investigator for the Santa Barbara Coastal LTER, the only kelp forest site in the network. It covers a swath of land and sea, from the top of the Santa Ynez Mountains to the north, the north shore of the Channel Islands to the south, Point Conception to the west, and the Santa Clara River to the east. The scientists monitor the land-ocean linkages and the impact of Southern California's pulsing climatic conditions on the kelp forests.

"Whether it be rainfall runoff, fire, drought, all of these things influence the input into the ocean, as well as oceanographic conditions that are occurring..."
offshore — currents, waves,” Reed says. “Our project is geared toward looking at how processes occurring on land and off-shore influence the kelp forest ecosystem’s underground conditions, climate, and oceanography.”

Brooks is deputy program director and science coordinator for the Moorea Coral Reef LTER, which is led by Russell Schmitt, the principal investigator and a professor of ecology, evolution and marine biology (EEMB) at UCSB, and Sally Holbrook, co-principal investigator who’s also an EEMB professor.

The mission of the Moorea LTER is to look at how physical and environmental drivers, such as storm frequency and intensity, wave energy and intensity, and acidity levels in the ocean affect the way the coral reef ecosystem surrounding Moorea functions.

“We have ringed the island with a series of oceanographic sensors, some of which report their data in real time over the Internet,” Brooks says, “so you can go to our Web site and see what the temperature of the water is in Moorea right now. This allows our oceanographers to do some real-time simulation modeling. And then we have a whole suite of biologists, theoretical ecologists. We are able to look at inputs of carbon and nitrogen, all the way up to how does that influence how fast coral grows, and how does that influence competition between different species of coral.”

MSI scientists are involved in many other research ventures, such as Gretchen Hofmann’s ocean acidification project, which includes studies of marine organisms in the southern oceans and Antarctica. Then there’s Brzezinski’s International Geotraces program, which maps the distribution of isotopes in the ocean. Other research includes an ambitious project led by MSI’s Jennifer Caselle, Carol Blanchette, and Jennifer Dugan, focusing on monitoring marine protected areas (MPA) throughout Southern California.

The bond among those who work at MSI is strong. “Many of our ladder faculty are very dedicated to MSI,” Brzezinski says. “They see us as being as much a part of their intellectual life as they see their own department. We provide the place where people have a common interest in marine research and interact.”

OCTOS: AN INTERACTIVE SHOWCASE FOR MARINE RESEARCH

It’s just a shell of a building right now, but one day soon students from the Santa Barbara area will be immersed in the coral reefs of Moorea, talking live to researchers as they trudge across Antarctica, or perhaps even driving a submersible research vehicle as it dives into the Pacific off the Channel Islands. And they’ll do it all from the confines of the Outreach Center for Teaching Ocean Science (OCTOS).

Until now, the Marine Science Institute’s educational outreach has been centered on the very successful Research Experience and Education Facility — better known as the REEF — at Campus Point. The hands-on aquarium has been a huge success with teachers, students, and the public. “We now reach about 18,000 students each year,” Mark Brzezinski, MSI’s director, said of the REEF. “This facility was designed to engage the public with our local marine environment and the habitats and organisms in our local waters.”

But OCTOS is the future of educational outreach for MSI. It will be part of a new building under construction next to the Marine Science Research Building. Sharing space with OCTOS will be the Channel Islands National Marine Sanctuary headquarters.

The goal of OCTOS, according to Brzezinski, will be to create both virtual and real world experiences for those interested in exploring the research of MSI. “In addition to the traditional classrooms, in which we will have microscopes and video cameras, and do hands-on research experience with live organisms, we have aspects that are virtual worlds,” Brzezinski said. “We wanted exhibits that you could change and, even if people came to see it one day, they would want to come back and see it again.”

For instance, in the Virtual Dive section, one visit might provide a coral reef environment. But on the next visit, visitors might experience kelp forests, or the deep ocean, or even an archeological site in the water. “This is meant to be a hands-on tool of discovery as much as a static exhibit,” Brzezinski said.

At the Magic Planet exhibit, students will learn about fisheries, pollution, global temperatures of the ocean, and tracking El Niño conditions.

In the Immersive Theatre, visitors will have consoles that will allow them to interact with MSI researchers in the field. “So if I’m off in Antarctica doing research, we can have a two-way conversation with video,” Brzezinski said. “If we have remotely operated vehicles on the side, they can see what I see. They might even be able to drive it.”

As they are at the REEF, docents will be an important part of the experience at OCTOS. All that’s missing from making OCTOS a reality is funding. According to Brzezinski, construction of the Channel Island Sanctuary floor is complete, but OCTOS remains a shell. “We are working on that,” Brzezinski said. “It will be through philanthropy. We need to find a person who shares our passion for this.”

To learn more about OCTOS, go to www.octos.ucsb.edu.
A Model of Efficiency

FROM LED LIGHTING TO SOLAR AND WIND POWER, RESEARCHERS AT THE INSTITUTE FOR ENERGY EFFICIENCY ARE TACKLING THE WORLD’S ENERGY CHALLENGES

By Anna Davison

As old-style incandescent light bulbs are slowly replaced by more efficient fluorescent lights, researchers at UC Santa Barbara’s Institute for Energy Efficiency (IEE) are fine-tuning lighting technology that would make them obsolete and slash the amount of energy needed to illuminate homes and offices and light up television and computer screens.

Developing energy-efficient and cost-effective lighting technology based on light-emitting diodes (LEDs) is one of six grand challenges being tackled at the IEE, which was launched in 2008 with the mission of developing technological solutions that will change how people around the world think about, produce, and use energy.

“With global demand for energy increasing, resources being depleted, and concerns over the safety and environmental impacts of fossil fuels and nuclear energy mounting, we need to focus on energy efficiency and renewable sources in order to secure a sustainable energy future,” said IEE Director John Bowers.

What sets the IEE apart from other groups working on energy issues, Executive Director David Auston said, is “the strength of its research programs. It comes from the expertise in science and engineering and a lot of that is based in materials science. The fact that UCSB is ranked number one in the country in materials is key,” he adds, since it underlies so much of the institute’s work, from solid-state lighting to solar cell and battery technologies.

While new energy sources such as solar and wind power are part of the solution, there are tremendous opportunities to save energy by increasing energy efficiency, said Program Director Whitney Wegener Kopf. “It’s great to focus on renewable energy sources but the bottom line is that we’re wasting half of our energy now.”

RESEARCH AT THE INSTITUTE: SIX GRAND CHALLENGES

The Lighting Solutions Group is aiming to dramatically reduce the energy required for lighting, which currently consumes nearly a quarter of the power used in the United States. Researchers at the IEE are developing the technology required to produce an LED light that’s twice as efficient as an incandescent bulb, and costs just a dollar.

The Computing Solutions Group is tackling the problem of energy-hogging servers and data centers — a typical server consumes as much energy in a single year as an SUV. Energy use in data centers is becoming such a problem that this work will be crucial to enable the current explosive growth in Internet traffic to continue.

The Electronics and Photonics Solutions Group is focused on cutting energy consumption in communications and entertainment devices. Researchers are developing optical switches that would send information through networks and within...
computers and other electronics much more efficiently — and enable blazing fast communications and computing.

Researchers in the Economics and Policy Solutions Group examine issues surrounding the development and application of energy-efficiency technologies. They engage with lawmakers, business leaders, investors and the broader public to explore the interfaces between technology, economics, policy and environmental and societal impacts.

The Buildings and Design Solutions Group is working on ways to cut energy consumption in buildings, which account for nearly three-quarters of the electricity used in the United States and close to half the country’s carbon emissions. They’re developing highly efficient control systems for heating, ventilation and cooling systems, sensors and lighting, and smart building technology to cut overall energy consumption.

And the Production and Storage Solutions Group is focused on clean energy sources such as solar and wind, which don’t burn through fossil fuels, and on developing better technology for batteries and other storage systems that enable renewable energy to be stored for use when the wind isn’t blowing or the sun isn’t shining.

The partnerships the IEE has developed with industry heavyweights such as Sony and Southern California Edison have not only boosted its resources, “they’re helpful in terms of guiding research and identifying our key challenges and opportunities,” Auston said.

One of the most useful venues for exploring industry perspectives has been the IEE’s Technology Roundtables, which assemble small groups of participants, mostly from industry, to explore a specific topic. Past roundtables have focused on LEDs and on control systems for maximizing energy efficiency in buildings.

The IEE’s annual Santa Barbara Summit on Energy Efficiency also offers a venue for leaders from industry, academia, and government to gather to learn about state-of-the-art research and to contemplate how it could be put to work for a more energy-efficient future.

The institute’s education and outreach efforts also encompass a public lecture series, graduate fellowships, paid undergraduate internships offered through the affiliated Center for Energy Efficient Materials, and a Web site offering footage from the summit and from lectures, and news and information related to energy efficiency.

In addition, the IEE worked with local engineers and the organization Engineers Without Borders to design and produce an affordable solar-powered lamp for schoolchildren in Ghana who have not been able to afford fuel for lighting that would allow them to read, study, and do homework in the evenings. More than 10,000 lamps are expected to be delivered to Ghana this year by Unite to Light, a Santa Barbara nonprofit partnering with the IEE. The goal for 2011 is to ship 100,000 lamps to Ghana, Uganda, Senegal, Kenya, Chad, India, and Haiti.

Running a 4.5-volt white light LED off a single battery means that for roughly the cost of two months worth of kerosene for one family in Ghana, “we can send lamps to Haiti or Ghana or Kenya, or lots of other places in the world that need solutions to burning kerosene,” Bowers said.

Future plans for the institute, Auston says, include building a new home on campus — a building that will be a model in terms of energy efficiency — and securing additional support to expand the IEE’s research programs.

“We can send lamps to Haiti or Ghana or Kenya, or lots of other places in the world that need solutions to burning kerosene.”
**The Campaign Trail**

**Campaign Embraces New Opportunities**

Thanks to the generosity of donors — alumni, parents, and friends — The Campaign for UC Santa Barbara continues to attract strong private support for the campus.

At the end of June, it had generated a total of $623 million for priority projects and initiatives to ensure UCSB’s excellence for future generations.

Chancellor Henry T. Yang expressed his deep appreciation to alumni and friends for their extraordinary commitment to the campus. “Your visionary gifts have helped us build a brilliant faculty, recruit and support highly motivated students, and enhance our innovative research and education programs,” he said. “Such generous support is especially heartwarming during this economically challenging time. UC Santa Barbara is honored to partner with you as we move forward with renewed vigor into the next phase of our campaign.”

The Campaign for UC Santa Barbara will continue to build on UCSB’s strengths while developing new opportunities for creativity and innovation. It will support transformational research across the disciplines, dedicated teaching, and public service to enhance the quality of life for the citizens of California and our global society.

Since the campaign was launched in 2000, philanthropic support has increased substantially, resulting in the campus’s top fund-raising years. UCSB’s endowment has grown by $130 million. A total of 60 new endowed professorships have been established to advance teaching and research. Also, 170 new graduate fellowships have been created. Major capital projects and campus enhancements were also completed.

California has been hit particularly hard by the economic crises, resulting in significant budget reductions for the University of California and its campuses.

During the fiscal year ending June 30, UCSB received $34.8 million in gifts and pledges for scholarships, research, and pioneering academic programs. Contributions and grants from individuals, foundations, and corporations were distributed across the disciplines with a substantial increase in alumni giving and student support, which will help keep UCSB affordable for all qualified students. Endowment gifts, which provide ongoing support, reached more than $5 million. Unrestricted gifts that help create special educational opportunities for students amounted to $2.1 million.

For more information about The Campaign for UC Santa Barbara, or to make a gift, visit www.giveucsb.edu or call (805) 893-4772 or, toll free, (800) 641-1204. E-mail is campaign@ucsb.edu.

**Foundation Trustees Elect New Officers**

Several distinguished business and community leaders have been elected officers of the UC Santa Barbara Foundation for the 2011-12 academic year. The nonprofit foundation works in partnership with the university to identify, engage, and cultivate potential donors, and to honor UCSB’s many benefactors for their generous support. The trustees play a major role in The Campaign for UC Santa Barbara. The new officers:

Chair: Bruce G. Wilcox of New York City and Santa Barbara, class of 1977 and retired co-chairman of the Management Committee at Cambridge Associates. Vice Chair of Development: Gwendolyn A. Brown of Silver Spring, MD, a 1971 alumna and director of congressional and federal affairs, Hewlett-Packard Co. Treasurer and Vice Chair Investments: Jane H. Williams of Menlo Park, president, CEO, and co-founder of Sand Hill Global Advisors.

Also: Vice Chair of Donor Relations: Edward E. Birch of Santa Barbara, president of the Samuel B. and Margaret C. Mosher Foundation. Secretary: Susan Worster of Los Altos Hills and class of 1970, philanthropist. Chair of Nominations: Daniel P. Burnham of Santa Barbara, retired chairman and CEO of Raytheon Company.

“UCSB is truly fortunate to have the generous support and extraordinary leadership of our distinguished foundation trustees,” said Chancellor Henry T. Yang.

**Bene facts**

- Acclaimed screenwriter Scott Frank, who graduated from UC Santa Barbara with an undergraduate degree in film studies, has made an additional $250,000 gift to the campus to expand the screenwriting curriculum in film and media studies and support related public programming in the Pollock Theater at the Carsey-Wolf Center.

In honor of his recent gift, one of the center’s screening rooms will be named in memory of Paul Lazarus, who was Frank’s screenwriting teacher at UCSB. Frank’s previous gift was for the construction of the innovative center. He is a member of the center’s advisory board.

- UC Santa Barbara alumnus Richard Whited and his wife, Paula, have made a $1 million gift to the campus to establish the Richard Whited Chair in Interdisciplinary Science to support the teaching and research of an outstanding assistant professor with research interests focusing on energy efficiency.

Whited, who earned his B.A., M.A., and Ph.D. in physics at UCSB, said he made the recent gift because he wanted to give back to the university. “UCSB has played an important role in both my life as well as in the community in which I live,” said Richard Whited. “I am pleased to be able to contribute to the educational goals of the campus.”

UCSB Chancellor Henry T. Yang expressed his gratitude to the Whiteds for their generous gift. “The Richard Whited Chair will not only advance research and teaching at the forefront of innovative discoveries in interdisciplinary science, with a focus on energy efficiency, but will also help develop the career of a brilliant assistant professor in this frontier area,” he said. “This is a tremendous gift that will have a lasting impact at UC Santa Barbara.”

Endowed chairs are highly prized academic positions that recognize scholarly excellence. Proceeds from the endowment provide permanent funding to support the activities of distinguished scholars.

- Longtime campus benefactor Sara Miller McCune has made a $1.5 million gift that will provide Arts & Lectures with endowment and programming support. In honor of her leadership gift, the executive director’s position will be named for McCune.

“Sara’s gift is a strong testament to the value of Arts & Lectures, and an important investment in the future of our program,” said Celesta Billeci, Miller McCune executive director. “We are deeply grateful for her support.”

A former trustee of the UC Santa Barbara Foundation, McCune has significantly enhanced a variety of disciplines in the arts, humanities, social sciences, and sciences with her contributions.
A Fish Tale
Longnose Skate, Shortspine Thornyhead, Roughjaw Frogfish, Pacific Spiny Lumpsucker — these are but a few of the more than 1,500 species of fish that make their home in the waters along the Pacific Coast, from Alaska to the tip of Baja California. They are also among the 490 included in a new compendium of fish facts and fancy by Milton Love, a research biologist with UCSB’s Marine Science Institute.

As an encyclopedia of fish, Certainly More Than You Want to Know About the Fishes of the Pacific Coast — A Postmodern Experience (Really Big Press) is comprehensive. Each entry includes the fish’s etymology and colloquial names; vital statistics, such as length, weight, and geographic range; salient characteristics; and reproduction and life history. However, with 650 pages of vibrant photographs, still-life reproductions, and cartoons, the book can be more appropriately considered a literary work of art.

In addition to the aforementioned fish facts, the book includes a host of historical and biographical data related to fish. Among them are tributes to naturalists and ichthyologists; fish tales, fun facts, limericks, and poems; and even quotes from William Shakespeare (a line from “Richard III” highlights the section on the Pacific Hagfish, which Love describes as “the most proudly disgusting creatures on Earth”).

Ties That Bind
Anger and bitterness often pervade narratives written by second-generation Asian American daughters, despite the women’s largely unremarkable upbringings.

In her new book, Ingratitude — The Debt-Bound Daughter in Asian American Literature (New York University Press), erin Khüê Ninh, assistant professor of Asian American Studies, explores this apparent paradox, finding the structure of the immigrant family at the center of the women’s suffering.

“The term ‘debt-bound’ is a reference to the feeling of filial obligation — the primary, core mechanism that underlies the parent-child dynamic,” says Ninh. “It structures the logic of how the parent and daughter are supposed to interact.”

Through readings such as Jade Snow Wong’s Fifth Chinese Daughter, Maxine Hong Kingston’s The Woman Warrior, and Evelyn Wuu’s Runaway: Diary of a Street Kid, among others, Ninh offers an explication of the subjection and psyche of the Asian American daughter, connecting common literary tropes to their theoretical underpinnings in power, project, and subjugation. She argues that women’s filial debts “both demand and defy repayment — all the better to produce the docile subjects of a model minority.”

Digital Universe
Virtual reality may seem a phenomenon of 21st-century technology, but, in fact, it has existed for thousands of years — since human beings first developed the ability to imagine. The difference between then and now, however, is that our 21st-century technology allows us to create virtual environments and human representations that are functionally indistinguishable from physical reality.

What this means for the future is the topic of a new book by Jim Blascovich, professor in the Department of Psychological and Brain Sciences and co-director and co-founder of the campus’s Research Center for Virtual Environments and Behavior. In Infinite Reality — Avatars, Eternal Life, New Worlds, and the Dawn of the Virtual Revolution (HarperCollins), Blascovich and his co-author, Jeremy Bailenson, examine how these new developments in digital technologies increase the potential of the mind.

Bailenson is a former postdoctoral student at UCSB and currently founding director of Stanford University’s Virtual Human Interaction Laboratory.

“Immersion is a state of mind, and virtual reality is a concept that isn’t necessarily tied to any particular technology,” Blascovich explains. “It’s been around since storytelling. But every once in a while, there’s a media technology development that creates a paradigm shift.” The printing press was one, he noted, as were radio and television, each of which greatly expanded the reach of human-to-human influence.

“And now there’s digital media,” Blascovich says. “It allows transmission of perceptual cues via visual, auditory, touch, and other sensory information that influence us even though we often aren’t even conscious of them.”

Footnotes

According to George Lipsitz, professor of Black Studies and of sociology, racism persists because a network of practices skews opportunities along racial lines. By assigning people of different races to different spaces, these practices allow grossly unequal access to education, employment, transportation, and housing.

In his new book, How Racism Takes Place (Temple University Press), Lipsitz reveals how seemingly race-neutral urban sites contain hidden racial assumptions and imperatives that perpetuate cycles of racism, and examines how urban space and social experience are racialized. He emphasizes that aggrieved communities do not passively acquiesce to racism, and recognizes the people and communities that have reimagined segregated spaces in expressive culture as places for congregation.

While the Cold War has most commonly been associated with Europe — think the former Soviet Union and the United States, East Asia has served as what scholars refer to as a critical second front. In his new book, The Cold War in East Asia — 1945-1997 (Woodrow Wilson Press, Stanford University Press), Tsuyoshi Hasegawa, professor of history and co-founder and former director of the campus’ Center for Cold War Studies, examines how interactions between six powers — the United States, the Soviet Union, China, Japan, and North and South Korea — forged conditions that were quite distinct from the Cold War in Europe.

He also explores how the Cold War in East Asia influenced the shape of a third front in the developing world.

Pastoral was one of the most popular literary forms in early modern England. It is often argued that the Renaissance pastoral was a highly figurative mode of writing that had more to do with culture and politics than with the actual countryside of England. For decades, literary criticism has argued that in pastoral verse, hills and crags and moors were extolled for their metaphoric worth, rather than their own qualities.

In his new book, What Else Is Pastoral — Renaissance Literature and the Environment (Cornell University Press), Ken Hiltner, associate professor of English, takes a fresh look at pastoral, offering an environmentally minded reading that reconnects the poems with literal landscapes, not just figurative ones.

— Andrea Estrada
UC Santa Barbara says Thank You!

We’re some of the student callers from the UC Santa Barbara Annual Fund, and we want you to know that your outstanding generosity is nothing short of inspirational. Every year, thousands of alumni, parents, and friends express their support for UCSB through gifts to the Annual Fund. These unrestricted contributions help create special opportunities for students, develop new programs, and support the continuing evolution of the campus.

For your thoughtful consideration and your generous gifts, UC Santa Barbara offers a sincere Thank You.

THE UC SANTA BARBARA ANNUAL FUND TEAM
1-800-TEL-UCSB (1-800-835-8272) • campaign@ucsb.edu • www.giveucsb.com
With more than 500,000 photographs, volumes and early sound recordings — not to mention 16,000 linear feet of manuscripts — many of the holdings in the Special Collections Department of UC Santa Barbara’s Davidson Library date back to periods well in advance of modern technology. A few thousand of those items have been brought into the 21st century thanks to the new Digital Library.

“At present, only a small percentage of our Special Collections resources are available digitally, but the UCSB Library will be expanding that effort over the next several years,” said University Librarian Denise Stephens. “We want to increase the discoverability of our research collections, and the Special Collections digitization effort is a critical component of the library’s future development.”

Approximately 3,200 items are currently held in the Digital Library, with more being added regularly.

“The images, audio recordings, and archives in the Digital Library provide a glimpse of the richness of our holdings in Special Collections,” said David Seubert, acting director of Special Collections. “We’ve created an online interface so that students, faculty, researchers, alumni, and the inquisitive around the world can instantly access these unique materials.”

Among the highlights of the Digital Library are Santa Barbara picture postcards, ca. 1900-1950; photographs from Ghana, Britain, and Australia from 1910 to 1921; poster prints from contemporary San Francisco artists; picture discs from the 1940’s; and artistic photographs of California and the United States from 1970 to 1990. Audio recordings include discussions and talks by famous political thinkers, such as Dr. Martin Luther King, Jr., and 78 rpm Vogue picture disc sound recordings.

The Digital Library is a collaborative effort, with assistance from technicians, faculty members, librarians, and in some cases, experts from the community at large.

A special feature of the Digital Library is the ability to geo-locate an item. For example, a visitor to the Kiewit archive can access a photograph of the Bowers Mansion in Nevada, and also find the building on a satellite image, or even see a current street view through Google Maps. Also, users can find all items by proximity to a specific location — an address, a city or state, or even geographic coordinates.

View the Digital Library collections at http://digital.library.ucsb.edu. — Andrea Estrada