IMPACT
Our goal is to make an impact that is: Positive. Lasting. Powerful. Through research and teaching the Bren School is poised to make a significant impact on the choices humankind makes with regard to the environment, economic conditions, and the quality of life on earth we enjoy. Through philanthropy, individuals, foundations, and corporations with vision support our mission. Their generosity is extraordinary. Their vision is positive, lasting, and powerful.
The rising and the setting of the sun over the oceans of the world, snow-capped peaks, great plains, majestic forests, shimmering deserts, animals great and small — across time and cultures, nature evokes in the human heart a sense of wonder and reverence. As we unravel the mysteries of the universe, we have begun to understand the incredible impact our existence has on the very fabric of life on Earth. The greatest challenge of humankind is balancing our desire to live bountiful and prosperous lives with preserving the integrity of the natural world in order to sustain generations to come. Achieving this delicate balance is at the heart of the Bren School’s vision.

The Donald Bren School of Environmental Science & Management is a University of California graduate program located on the UC Santa Barbara campus. Its primary mission is to integrate science, management, economics, law, and policy to identify and solve environmental problems around the world.

Through rigorous natural and social science research, legal and policy studies and involvement in a wide range of projects and perspectives, Bren students and faculty are uniquely qualified to make a difference in the world. Nowhere is this more evident than in the six examples of high-impact research illustrated in this brochure. These are just a small sampling of the full faculty’s research agenda, which is rich, diverse and continually evolving.

The pages that follow also provide information on our award-winning Platinum LEED™ green building, Bren Hall, a remarkable “living laboratory” that supports the teaching and research of the Bren School. This building is a manifestation of the vision and mission of the School, reflecting our shared commitment to the principles of sustainability.

Ours is a community of students, scholars, and visionary leaders, that marvels at the beauty and majesty of nature and strives, through extraordinary expertise, to find solutions that ensure humankind will enjoy a bountiful yet responsible co-existence with a flourishing natural world.

Financial support of The Donald Bren Foundation launched this magnificent enterprise called the Bren School. Additional private support is necessary to fully realize the greatness that is in us. Please join us in our quest to achieve a sustainable world.
“Understanding the interplay of aquatic environments, their terrestrial watersheds and the many organisms that inhabit them is critical to maintaining natural ecosystems and for sustainable supply of water for human uses.”

John Melack
Associate Dean and Professor of Ecology and Limnology

John Melack is an internationally recognized ecologist known for his studies of lakes, streams and wetlands throughout the world and especially in Africa, the Amazon and California. Melack specializes in limnology—an interdisciplinary science that combines the physics, chemistry and biology of inland waters—and applies scientific knowledge to management of freshwater.
GATHERING INTELLIGENCE: AMAZON FLOODPLAINS, ECOSYSTEM FUNCTION AND GLOBAL CHANGE

The floodplains of the Amazon lowlands cover up to one quarter of this immense region, harbor an amazing variety of fishes and emit large amounts of greenhouse gases. By applying innovative approaches using radar remote sensing combined with rigorous field campaigns, Professor Melack examines how the floodplains of the Amazon function ecologically and hydrologically. The diversity and productivity of plants and fishes are direct results of the natural pulsing of flood waters along the rivers.

POLICY IMPLICATIONS: Remote sensing analyses and models derived from field measurements generated in Professor Melack’s Biogeochemistry and Watershed Science Laboratories guide conservation of biodiversity and understanding of the role of aquatic environments in global change. Insights obtained in the Amazon have applicability to river systems throughout the world.
MAKING RULES TO KEEP THE FUTURE IN OUR HANDS

Humans are changing the planet with profound consequences for the future. Fortunately, it is not too late to influence the course of human-environment relations. By focusing on what we can control — our rights, rules, and decision-making procedures or, in other words, our governance systems — we can solve today’s problems and provide hope for the future. We can control pollution, save endangered species, restore degraded ecosystems, and stabilize Earth’s climate. Reordering and integrating our governance systems can turn the current era of human-damaged ecosystems into the era of human-balanced ecosystems.

**Policy Implications:** *We can create governance systems at all levels, from the local to the global, to guide us toward sustainable development — development that meets the needs of people living today without compromising the ability of our children to meet their needs.*
“We face an historic task: how to govern human affairs to address challenges of a size, complexity, and uncertainty unprecedented in human experience — the challenges of sustainable development.”

Oran Young
Co-Director of the Program on Governance for Sustainable Development and Professor of Political Science

Oran Young is a leading figure in the global environmental change research community. His work is at the forefront of the emerging field of governance, broadly defined, in the area of environment. In addition to a multitude of scholarly publications, he is the author and editor of recent books in the popular press including Governance in World Affairs, The Institutional Dimensions of Environmental Change: Fit, Interplay, and Scale, and The Limits To Privatization: How to Avoid Too Much of a Good Thing.
“Through the development and deployment of carefully engineered market-based incentives, we are increasingly discovering that environmental protection need not be secured at the expense of economic performance.”

Christopher Costello  
Associate Professor of Resource Economics

Professor Costello’s research is in the area of environmental regulation and natural resource management under uncertainty, with a particular emphasis on information and its effect on economic performance. He applies decision-theory models to biodiversity and natural resource policy matters in Alaska, Africa, South America, and the United States.
The case for sound environmental policy and practices is clear and proven effective in ecologically sensitive regions around the world. We have the opportunity today to create and manage local and regional economies through deployment of strategic business practices and financial incentives that ensure meaningful and sustainable development, while protecting limited and threatened environmental resources. Informed resource management with a market-based strategy can fuel new discoveries and improve the lives and circumstances of people, thus safeguarding both economic and environmental assets.

**Policy Implications:** A comprehensive understanding of economic and behavioral incentives is essential to design policy instruments that empower local populations to prosper while protecting the environmental public goods that they steward.
LEADING HIGHER LEARNING

Founded in 1868, the University of California is widely respected as the best public university system in the world. Through its ten campuses, three national laboratories, and hundreds of libraries, museums, community programs and facilities, the UC system touches the lives of millions of people throughout California, across the nation, and around the globe.

UC Santa Barbara’s meteoric rise to international distinction in just over fifty years is a phenomenal success story in modern higher education. With approximately 17,600 undergraduates, 2,800 graduate students, and more than nine hundred faculty members, UC Santa Barbara is the site of cutting-edge intellectual activity that spans the academic spectrum. One of the ten campuses of the University of California, UCSB is a member of the prestigious Association of American Universities (AAU) and is home to three colleges, two professional schools, seven national research centers and nine organized research units. These units foster the campus’ highly interdisciplinary research, which has become a hallmark of distinction. UC Santa Barbara is committed to providing an outstanding environment for teaching and learning, offering strong programs of research that adhere to the highest standards of academic excellence and contributing to the well-being of the world community.

Its academic prominence gives UCSB an edge in creating research centers and laboratories that attract faculty and students of the highest caliber. Many faculty are members of prestigious scholarly associations including the American Academy of Arts and Sciences, the National Academy of Sciences, and the National Academy of Engineering. In addition, five Nobel Prizes have been won by distinguished UC Santa Barbara professors since 1998 for their ground-breaking interdisciplinary research, bringing international recognition to the campus.

Located on the central California coast, the campus is ideal for the study of environmental science and management as it is adjacent to diverse and rich marine, aquatic, and terrestrial ecosystems. In addition, students and faculty have access to the University’s Natural Reserve Systems throughout California, where they can study the management of natural ecosystems. UCSB manages six reserves and field stations dedicated to environmental teaching and research.
The School and building are named to honor the tremendous vision and generosity of Donald Bren. His desire to create a graduate school, where science, business and management practices are integrated with law and policy to form a single cogent curriculum, has resulted in a School unlike any other in the nation.

For more than 40 years, Donald Bren, chairman of the board of directors of The Irvine Company, has been deeply involved in California real estate as a master planner, master builder and a long-term investor. Mr. Bren is known as a leader and innovator within the real estate industry — one of the first to combine well-designed homes with such amenities as parks and substantial open space, schools, employment centers and shopping centers to create balanced master-planned communities. Born in Los Angeles, Mr. Bren was raised there and in Newport Beach. He earned his bachelor's degree in business administration and economics from the University of Washington, where he also pursued graduate studies in business. Subsequently, he served as an officer in the U.S. Marine Corps. He has been chairman of The Irvine Company since 1983. The Irvine Company has set aside more than 50,000 acres of open space for protection — more than half of The Irvine Ranch. His multi-million dollar gifts to support environmental science and management education and land stewardship conservation and restoration have been recognized nationally. In 2004, Mr. Bren was awarded the University of California Presidential Medal, which is the UC system's highest honor.
Donald Bren Hall, a magnificent 85,000 sq. ft. living laboratory, has received a Platinum Leadership in Energy and Environmental Design (LEED™) Award, the highest level of distinction the US Green Building Council can bestow upon a capital project. Bren Hall is the greenest laboratory building in the United States and stands as a model demonstration site for the UC system and the State of California. It has become a national symbol of sustainable “green” building design and exemplifies the convergence of equity, ecology and economy.

Bren Hall demonstrates the core value of sustainability by minimizing the impact on air, water and land while showcasing high-performance products and services that efficiently use energy and natural resources in new and creative ways. Building with these concepts is what it means to be “green.” The building and its materials are continuously monitored so that data on its energy performance can inform others on best practices in the green building movement.

Bren Hall is a state-funded building with key components being supported by generous corporations, foundations, and individuals. It is a highly visible symbol of the foundation upon which the School is built – a partnership of leaders, visionaries, and scholars. Through its laboratories and meeting places, the building facilitates world-class environmental research and teaching, the impact of which will have long-lasting and far-reaching benefits for the world.
VISITORS CENTER: This first floor 548 sq. ft. glass-enclosed visitors center is the public gathering space for building tours and receptions. It showcases sustainable products and information about the greening techniques used throughout the building and serves as an “open house” to feature student and faculty research.

DEAN’S TERRACE: Perched on the second floor overlooking the Pacific Ocean, this 1,545 sq. ft. patio terrace adjacent to the Dean’s suite of offices offers a spectacular venue for social events and interaction.

COLLOQUIUM ROOM: This 1,785 sq. ft. lecture theater/multimedia room located on the first floor is designed with stadium-style seating for one hundred, and will be equipped with state-of-the-art distance-learning capabilities. It is the primary teaching space for environmental economics, business, law, science and policy classes. Research across all disciplines can be presented in multimedia formats.
WATERSHED SCIENCE TEACHING LAB: This first floor 950 sq. ft. laboratory serves as the primary staging area for field investigation, experimentation, and analysis for scientific research and teaching in hydrology, meteorology, physical limnology, and oceanography. State-of-the-art technology and instrumentation supports the innovative and advanced research techniques for teaching graduate students.

GIS/COMPUTING TEACHING LAB: This third floor 950 sq. ft. laboratory supports the Bren curriculum in computational modeling, geographic information systems, and environmental information management. Thirty-two high-end workstations with advanced graphics, visualization, and processing capabilities share access to large-format high-resolution color printers and scanners. For AV needs, the room has screens, data projectors, DVD, VCR, audio inputs, a computer and podium, and an internet connection.

BIOGEOCHEMISTRY TEACHING LAB: This second floor 950 sq. ft. laboratory supports the Bren School’s interdisciplinary curriculum in biology, geology, and chemistry. Leading-edge analytical instrumentation supports innovative and advanced research techniques for teaching graduate students.
Philanthropic investment makes a tremendous impact on the Bren School’s ability to achieve its academic mission. Annual gifts for student support, endowments for Bren Hall, and gifts from foundations, corporations and individuals make it possible for the School to be the preeminent institution for environmental science and management, teaching and research.

The Bren School is grateful for all charitable gifts, and seeks to honor leading donors who provide major support for student, faculty, programmatic, and capital needs. One significant way to pay tribute to our most generous supporters is to name the benefited program or facility for the donor. One of the highest priorities of the Bren School is to secure investment in the various components of Donald Bren Hall.

The Bren School is indebted to the following corporations without whose generosity Donald Bren Hall could not have achieved Platinum LEED™ certification. Armstrong World Industries, Milliken Carpet, Johnson Controls, Pacific Earth Resources, Parker Boiler, POWERLIGHT, Sarnafil, Southern California Edison, To Market, Valley Crest Tree Company, and Waterless Co.

**BREN HALL STUDENT FACILITIES**

**STUDENT COMPUTING FACILITY (SCF):** This 882 sq. ft. room located on the third floor serves the Master’s students as the main computational facility for the program. Lab sections are held in this space to complement the core curriculum. This room houses 41 computers and has both color and black and white printing capabilities.

**READING ROOM:** This 477 sq. ft. room is located on the third floor next to the interaction area. This space houses journals and publications relevant to the teaching and research programs at the Bren School, as well as Bren student’s final thesis documents and dissertations. It also provides a quiet study space for students, staff, and faculty.

**BREN HALL PUBLIC FACILITIES**

**SEMINAR ROOM:** Located on the first floor, this 1,293 sq. ft. space is dedicated to featuring special lectures and symposia and accommodates approximately seventy people. It is equipped with distance-learning technology.

**SYCAMORE CONFERENCE ROOM:** The Sycamore Room is located on the first floor of Donald Bren Hall just off the central courtyard. The 506 sq. ft. room typically seats twenty-two people around a center table. It has a motorized screen, data projector, DVD, VCR, audio inputs, with a computer, a podium and an internet connection. It serves corporate partners, students, and faculty for meetings and presentations as well as teaching space for graduate students and executive programs.

**INTERACTION AREA AND TERRACE:** The third floor interior and exterior gathering space is the hub for informal meetings between faculty and students. The large glass wall between the spaces provides wonderful natural lighting, while the terrace overlooks the lush courtyard below.

**ADMINISTRATIVE OFFICES:** Located on the second floor, these offices and reception area open on to the large outdoor terrace overlooking the Pacific Ocean.

**OUTDOOR SPACES**

**CENTRAL COURTYARD:** The 5,727 sq. ft. open-air courtyard is the focal point of the first floor of Donald Bren Hall with conference and meeting rooms opening out into this large space. It has planters and benches and is a model for programmatic interaction with our natural environment.

**FACULTY INTERACTION DECK:** This third floor terrace overlooks the Central Courtyard. It holds planters and benches and provides casual outdoor space for interaction in a natural environment.
RESPONDING TO THE GLOBAL DEMANDS FOR ENVIRONMENTAL RESPONSIBILITY
Although environmental issues have been mostly treated as added costs to businesses, some firms are now realizing that environmental management can be a potential source of competitive advantage. Through the work of scholars in Corporate Environmental Management (CEM), new strategies are emerging that inform corporations on the use of more efficient production methods, on successful strategies to respond to customers’ environmental concerns and on more effective management of the supply chain. These lessons are leading to lower costs through energy conservation, reduced impacts on the environment and dependence on natural resources. The goal is to enjoy increased profits while producing superior products with environmentally appropriate life-cycles.

**POLICY IMPLICATIONS:** As good environmental performance becomes increasingly profitable for business, regulators around the world are rethinking their traditional adversarial command-and-control regulatory structure in favor of more cooperative approaches and market based instruments. Especially important in this evolution will be global competition and international trade as forces to reverse environmental degradation. The research of the Bren School CEM faculty plays a leading role in informing policy that is moving the U.S. toward innovative cooperative business strategies with positive outcomes for the environment and human health.

**THE FACILITATOR**

“How can firms be green while remaining competitive? In today’s world, businesses must respond to environmental concerns from a variety of stakeholders — consumers, investors and the broader public. Successful corporations can and must deliver value to shareholders while at the same time acting as stewards of the environment.”

Magali Delmas
Assistant Professor of Strategic Management

Magali Delmas works on the interaction between business strategy and public policy. Her research analyzes how regulation impacts organizational change, how firms can influence regulation, and how business and governments can enter collaborative arrangements to pursue environmental goals.
"My research is focused on mapping the location of various species and their habitats. I seek to understand how species are distributed across the landscape and how this distribution is altered by climate change and land use. I use this information to help regional and local land planners design effective conservation strategies.”

Frank Davis  
Professor of Landscape Ecology

Frank Davis has conducted research on the ecology, distribution of species, and ecosystems using field studies, geographic information systems and remote sensing. He has been involved in many large-scale conservation and ecosystem management projects, serving for a number of government, public and private agencies.

His research has focused on the ecology of California chaparral and oak woodlands and on the use of digital satellite data, geographic information systems for mapping vegetation, modeling species distributions, and conservation planning.
Using satellite images of the surface of the Earth, Professor Davis is able to pinpoint the location of various species habitats. His understanding of the biology of a species and the ecology of its habitat enables him to better understand how and why plants and animals are adapting to a changing world. By comparing satellite images taken over time, Professor Davis can predict the movement of a species across the landscape in relation to changes in climate and land use.

**POLICY IMPLICATIONS:** Professor Davis’ work examines the relationship between biodiversity and land use, land ownership and management. Modeling habitat condition and trends, combined with other socioeconomic indicators, provides new views into environmental management and policy development.

**CHANGES FROM SATELLITES TO DNA ANALYSIS**
Traditional water testing methods are hit or miss because they only reveal the microbes that can grow in the laboratory. Professor Holden is studying the DNA markers of various microbes with an eye toward accurately determining the presence and concentrations of pathogens, or disease-causing “bugs,” in coastal waters. Professor Holden and her research group are studying these new methods for tracing the migration of pathogens from urban areas to the ocean.

**POLICY IMPLICATIONS:** Professor Holden’s studies of coastal California waters should help determine the points at which pathogens are entering the environment and their sources. By doing so, her research can inform policy makers regarding how land use affects the quality of our waters. Her research is applicable to all urban areas along the streams and rivers that feed the ocean, and her techniques using DNA markers could be adapted worldwide to better inform communities and policy makers who are seeking out methods to ensure the quality of their water.

**THE DETECTIVE**

“Identifying the minute clues we find in our environment is the first step in the complex process of recognizing cause and effect and, ultimately, in managing solutions.”

Patricia Holden
Associate Professor of Environmental Microbiology

An environmental microbiologist who focuses on bacterial ecology and physiology, Professor Holden’s teaching extends from her research on the microbiology present in our ecosystems, including the ability to identify organisms and their individual and interrelated roles in environmental health.
Through innovative strategic partnerships with individuals, foundations, and corporations, the Bren School is quickly becoming a world-renowned institution. Philanthropic gifts ensure that the Bren School has the necessary resources to attract the finest scholars and graduate students, and to enable them to conduct leading-edge teaching and research that will benefit generations to come. To this end, we seek direct support in two critical areas:

Student Support
We view the task of preparing the next generation of environmental leaders as a fundamental responsibility. An unstinting commitment to assisting students is one of the keys to the Bren School’s continued excellence, and an area in which donors can have a direct and personal impact on individual lives. Fellowships are essential to attracting and retaining the brightest students. Annual gifts of student support can establish a one year named prize or fellowship. Endowed fellowships are especially valuable in ensuring the School’s ability to attract top scholars now and in the years to come.

Corporate Partnerships
Corporate partnerships with the Bren School create mutually beneficial alliances with local and national corporations and non-governmental organizations. The return on industry’s investment in partnering with the Bren School includes access to a world-class university, cutting edge technologies, and recruiting opportunities.

If you have any questions about how you can make a gift that reflects your personal interests and makes an extraordinary impact, please contact Jennifer Purcell Deacon, Assistant Dean of Development, at (805) 893-5743 or jennifer@bren.ucsb.edu.