WELCOMING THE WORLD
International Students at BREN

THE POLICY CONNECTION
Faculty Serving Society

PhD Research: The Rating Game
MESMs Enter the Literature
Alum’s Better Green Mutual Fund
**Dean’s Message**

The impact of the Bren School is spread in multiple ways — by students and faculty who perform research in many places, by the global distribution of partners who pose challenging problems for our students to solve, and by the spread of solutions that arise from innovations developed here. Other factors that extend our reach get less attention. They include the diversity of places that Bren students call home and the diversity of institutions that seek out Bren faculty expertise.

In this issue of Bren News, you’ll meet some students who have traveled the farthest for a Bren education — our international students. Environmental challenges are not confined to any particular setting, so these students bring interesting new problems to the table. Tapping into the creativity of students who have such diverse cultural experiences spurs innovation at Bren and allows environmental solutions to spread more rapidly. Bren students have come from 26 countries, and these international students make up a vibrant and expanding part of the Bren community.

Solving environmental challenges requires building better pipelines between academia and other institutions. Bren faculty are building these pipelines to an amazingly diverse set of government, non-government, and commercial groups by lending their time and expertise. Such service to the local and global community is at the heart of the Bren mission. In this issue of Bren News, you’ll get a glimpse into some of the wide-ranging service our faculty members provide.

Elsewhere, we take one of our regular looks at PhD research, highlight new gifts and Corporate Partners, tell you about a master’s class project that became a published journal paper, profile an alumnus who created a more profitable green mutual fund, and introduce you to our two new assistant deans, who came to Bren after the retirement of Laura Haston, one of the school’s most influential staff members.

—Steve Gaines

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**Bren Web Facelift**

After months of collaborative work, the new and improved Bren website went live in February, bringing fresh design, an updated look, more intuitive menuing, new interactive features and, overall, more graphic interest and user-friendliness to the familiar Bren template. Take a look at www.bren.ucsb.edu, and if you have suggestions, please let us know by sending e-mail to media@bren.ucsb.edu.

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**Commencement 2011**

The 2011 Bren commencement exercises will be held Friday, June 10, in Bren Hall’s Michael J. Connell Memorial Courtyard, with a reception to follow. The keynote speaker will be L. Hunter Lovins, environmental author, entrepreneur, and worldwide promoter of environmental sustainability.

Trained as a sociologist and a lawyer, Lovins is president and founder of Natural Capital Solutions, which educates senior decision-makers in business, government, and civil society on restoring and enhancing natural and human capital while increasing prosperity and quality of life.

She has addressed the World Economic Forum and the World Summit on Sustainable Development, and she co-founded the Rocky Mountain Institute with her then-husband, Amory Lovins. She was named Time Magazine’s 2000 Hero of the Planet, and in 2009 Newsweek dubbed her a “Green Business Icon.”

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**Steve Gaines**

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**L. Hunter Lovins**

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Real-World Law in the Classroom

A group of Bren affiliates is providing Bren students with a new level of legal knowledge. Established in 2010, the Council of Legal Advisors comprises some of the nation’s top environmental law firms, which have partnered with the Bren School to support environmental legal education. Last fall, council members and senior partners from their firms began providing half-day enhancement workshops in their areas of expertise, bringing indispensable real-world experience to the academic study of environmental law.


For more on the council, go to: www.bren.ucsb.edu/partnerships.legal.htm.

Waitt Foundation Supports Ocean Sustainability

The Bren School has received a generous gift from the Waitt Foundation as initial funding for the Sustainable Ocean Solutions project.

Complementing the Sustainable Fisheries Group, a joint venture of the Bren School and the UCSB Marine Science Institute, which the Waitt Foundation also supports, the Sustainable Ocean Solutions project combines three important tools — rights-based management reform, marine protected areas (MPAs), and certification incentives — to develop novel solutions for the challenges facing the world’s fisheries.

Individually, each of these instruments can solve problems in only a small percentage of ailing fisheries worldwide. A central challenge, therefore, is to engineer fisheries management systems that capitalize on the tools’ complementary strengths while overcoming their individual limitations. By combining changes that affect the supply of fish (such as catch shares), with conservation measures (such as MPAs) and tools that alter consumer demand (such as fisheries certification), fisheries, communities, and ecosystems can simultaneously prosper.

The project’s two-pronged approach focuses on 1) research and development to determine how best to combine the three tools, and 2) demonstration projects to test globally scalable proofs of concept.

It is hoped that Sustainable Ocean Solutions will result in more-resilient fishing communities, more-sustainable fisheries, better-functioning marine ecosystems, increased quantity and quality of local fresh seafood, and improved alignment of supply and demand as they relate to sustainable seafood.

By linking growing consumer demand for sustainable seafood with proven supply-side strategies, the project is expected to catalyze much more rapid reform of the world’s fisheries than would otherwise be possible. The goal is not slow, incremental progress, but rather, a transformative solution for ocean sustainability.

The Waitt Foundation was established in 1993 by Ted Waitt, co-founder of Gateway. The foundation has donated over $100 million to nonprofit and charitable organizations in areas of sustainability.

It is hoped that Sustainable Ocean Solutions will result in more-sustainable fisheries, better-resilient fishing communities, and the alignment of supply and demand as they relate to sustainable seafood.

New Assistant Deans at Bren

The Bren School recently welcomed two new and highly capable assistant deans: Bryant Wienene, Assistant Dean of Planning and Administration, and Satie Airamé, Assistant Dean of Academic Programs. Both arrived at the Bren School in February, ensuring a smooth transition after Laura Haston, who served as assistant dean since the Bren School opened in 1996, retired in March.

Wieneke has held several high-level positions during his 23 years at the University of California. At UCSB, he has served as Assistant Dean for Policy in the College of Letters and Science, Director of Policy and Publications in Graduate Division, and Executive Assistant to the Chancellor. He also spent seven years at UCLA, working in the Chancellor’s Office and the Business Office. He holds a Master of Public Administration degree from New York University and a BA in English Literature from UC Riverside.

Airamé has worked with the Bren School in various capacities, including lecturer and external Group Project advisor, since 2000 and recently began directing the Bren School Communication Training Center, which supports Bren students in developing their written and spoken communication skills. She worked closely with Dean Steve Gaines and other PISCO (Partnership for Interdisciplinary Studies of Coastal Oceans) researchers at the Marine Science Institute to inform policy makers and managers about ocean research. She has worked extensively with the Channel Islands National Marine Sanctuary and the California Marine Life Protection Act Initiative to design, implement, and monitor a network of marine protected areas in southern and northern California.

Airamé earned her MS and PhD in ecology from the University of Chicago, and her BS in biology from Humboldt State University.
Environmental policy does not evolve in a vacuum; the process involves extensive interactions among dozens or even hundreds of people. Among them are experts, such as Bren faculty members, who serve on science advisory groups or committees. They work in a variety of fields and for many reasons, but a common theme is the desire to make a difference in the world.

"If you really want the science and knowledge that come out of academia to have an impact beyond academia, you need to build the bridges to groups that can implement policy," says Bren School dean, Steve Gaines. He provides extensive service on scientific advisory groups, particularly in pursuing the mandate of the California Marine Life Protection Act, which is to establish a series of marine protected areas along the coast, using the best available science.

The responsibility of science advisory groups and other similar entities is not to create policy, but rather to assess information submitted to support various positions and alternatives, to articulate relevant questions, and, most importantly, to ensure that decision makers have the best, most current science at their disposal.

"I see this work as a two-way street," Gaines says. "We’re not just helping policy makers; we’re also identifying where the needs are for research, where the roadblocks are to their being able to make an effective decision. The science doesn’t trump the other factors in the decision-making process, but if it isn’t at the table, it will never play an important role."

Frank Davis (landscape ecology and conservation planning), has served on several dozen science advisory teams for a variety of entities and initiatives, including his recently concluded work as chair of the National Research Council Committee for the Independent Scientific Review of the Everglades Restoration Program, the largest environmental restoration project ever undertaken.

"Contributing professional service is an important part of my responsibility as a member of the UC faculty," Davis says. "Beyond that, it’s a chance to bring my scientific expertise to bear on environmental science and management issues, it keeps me current in terms of what the issues are for managers and policy makers, and it’s a great way to network and do some outreach. When you’re on a committee with scientific experts and organizational leaders from around the country, you have an opportunity to make them aware of the Bren School."

Davis says that the work also "provides a lot of grist for teaching" while stimulating new research ideas. "Much of my conservation-planning research has been motivated by my experiences in committees and advisory boards," he says. "And because that research is influenced by what kinds of decisions are being made and the information needed to make them, it is ultimately more likely to be relevant and useful to environmental decision making."

Tom Dunne (river hydrology, geomorphology) can vouch for that. He has acted as a scientific advisor to the United Nations; the governments of several nations; and multiple federal and state agencies. He has spent a great deal of time working on science advisory groups formed under the auspices of the CalFed Bay-Delta Restoration Program, a federal-state collaboration to improve California’s water supply and the ecological health of the San Francisco Bay/Sacramento–San Joaquin River Delta.

Normally committee work does not involve research, but at one point in a CalFed project, the state had decided to spend $115 million a year to rejuvenate rivers in the Central Valley through a series of actions.

“They said, ‘We’re going to alter the flow regime and the sediment supply, and we’re going to set back levies, and we think the river will do the following things that will create biological value, particularly for endangered salmon species.’” Dunne recalls. “And I said, ‘Hmm, that’s interesting. But I don’t know how to make a prediction. I don’t know, for instance, if you should throw in a hundred thousand cubic yards of sediment or ten thousand. I don’t know if you put flow releases from Shasta Dam down the river what will happen to the river.’”

Dunne proposed a study to generate knowledge that could help ensure that money spent was well spent.

Rivers, streams, and creeks have also been a focus for Trish Holden (microbiology) during a decade of working with local, regional, and California state agencies to diagnose coastal microbiological water issues and uncover the origins of waste indicators, such as bacteria. Beaches and near-shore waters are also a critical part of her research focus.

Working in partnership with the City of Santa Barbara, Holden and her research group recently completed a multi-year study that pinpointed how subsurface sewage contamination is entering coastal creeks that drain to the ocean.
Because the research is thorough and the conclusions clear, it is "actionable" by agencies and is therefore leading to accelerated infrastructure improvements that can rapidly improve coastal water quality.

Her research group is also currently partnering with groups from UCLA, Stanford, and the Southern California Coastal Water Research Project to design, test, and publish protocols for using state-of-the-art DNA-based methods to conduct field assessments of waste origins. This statewide project will enable agencies to propagate best practices to their regions long after the research is complete.

Since 2003, Holden has served on the State's Clean Beach Task Force, a multi-institutional committee that advises on capital projects to improve microbiological beach water quality throughout California.

Bren professor and founding dean Jeff Dozier (Earth science, snow hydrology, remote sensing) has spent more than twenty years serving on committees and working groups. From 1990-1992, he was senior project scientist for NASA's Earth Observing System (EOS) in its formative stages. EOS comprises a series of coordinated polar-orbiting satellites designed to provide long-term global observations that allow scientists to monitor and understand key components of the climate system and their interactions. Dozier has also co-authored seven National Research Council reports, focusing particularly on the gathering, use of, and opportunities provided by geospatial data from satellites.

He remains a member of the MEDEA group, which he co-founded in 1992. The group's scientists hold security clearances and are able to use classified satellite reconnaissance images to further environmental research, monitoring, and assessment. Their work has also led some data to become available to the public. In February 1995, for example, President Bill Clinton issued an executive order declassifying the national-reconnaissance satellite imagery from 1960-1972. The idea, Dozier explains, started with a recommendation from MEDEA, and the film, which is valuable to researchers, is now available electronically.

"I do this work for the good of science in general, and to help my country," says Dozier.

Arturo Keller (fate and transport, pollution mitigation) provides advisory support primarily in the areas of water quality and the water-energy nexus. He is, however, also a member of a new industry consortium on environmental monitoring of nanomaterials. That service is related to his position as associate director of the UC Center for the Environmental Implications of Nanotechnology, and involves developing industry guidelines for how best to find and track nanomaterials in the environment. He also serves as a water-quality expert on the U.S. EPA Science Advisory Board, which evaluates a document that EPA produces every five years as an assessment of the environmental health of the nation.

"Through this work, I get to see more closely what the regulatory side has to deal with in terms of making decisions without having sufficient information," he says. "They try to have the best science, but they don't always get it. It's rewarding when they act on a recommendation and it has an impact."

Adjunct professor Robert Wilkinson works intensively on water, energy, and climate issues. He provides policy advice, while seeking to bridge the gap between science and policy. "The question for me is how do we take good scientific information and good economic analysis and translate that into good policy to address issues such as water management, energy, and climate change," he says.

In the 1990s he coordinated the California component of the U.S. national assessment of the impacts of climate change for the US Global Change Research Program and the White House Office of Science and Technology. He has served on the EPA’s Board of Scientific Counselors for climate change research, and he co-authored the California Energy Commission’s roadmap for climate change research. Dr. Wilkinson is currently advising the California Climate Action Team, formed as part of the implementation process for AB 32, California’s 2006 Global Warming Solutions Act. He serves on advisory and technical committees for the California Department of Water Resources for the State Water Plan, and advises local and regional water management agencies as well as the California Water Resources Control Board.

“We need to understand the nature of the policy challenges facing decision-makers in both the private sector and government in order to provide usable and useful advice,” he says.

Economics are at the center of the many contributions made to policy advisory groups by Charles Kolstad (environmental economics). He continues to serve as a lead chapter author for the Intergovernmental Panel on Climate Change (IPCC), which earned a share of the Nobel Prize in 2007 for its contributions to furthering humanity’s understanding of global climate change. The organization, which comprises some two thousand experts in fields ranging from entomology to population dynamics and economics, is due to issue its next report, the Fifth Assessment, in 2014.

Kolstad has also served on numerous science boards and committees relating to air quality and energy, including the California Air Resources Board (CARB) Research Screening Committee. The legislatively
mandated group works to identify research projects to receive CARB funding in such areas as health and exposure, climate change, emissions monitoring and control, atmospheric processes, and economic analysis.

Oran Young (international governance) has served for years on advisory committees and working groups, focusing on two main areas: one is advancing relevant science – particularly related to global environmental change – by stimulating international collaboration among scientists; the other is linking science and policy. His work with such entities as the International Human Dimensions Programme on Global Environmental Change has played a significant role in raising the attention given to humans in considering large-scale environmental problems and has helped to redirect the global science agenda so that scientists think in terms of coupled systems when addressing such challenges.

Referring to what is called “the great acceleration,” he explains, “Since World War II, we’ve seen an astonishing set of changes in terms of the functioning of the planet and the role of human beings in it. We’re in a ‘no-analog’ state, which is to say we’re experiencing unprecedented human domination of ecosystems. It’s hugely devastating, and it calls for something far beyond business as usual. The game is to figure out how to do science that’s relevant to this unprecedented situation.”

Young’s work on research steering committees allows him to have an impact on that process. Chris Costello (environmental economics) currently serves on the Science Advisory Committee to the California Ocean Protection Council, which provides the council with up-to-date science for use in forming policy. He was previously a member of the California Current Ecosystem Based Management Initiative Science Advisory Team. The goal of that group was to advance the social and natural sciences necessary to implement ecosystem-based management (EBM) within the U.S. portion of what is referred to as the “California Current Large Marine Ecosystem.” The EBM approach is unique in that it recognizes human activities as a key element in ecosystems; manages according to ecological, rather than political, borders; uses adaptive management (i.e. is willing to adjust a policy as conditions change or new information becomes available); and engages multiple stakeholders in seeking to ensure the sustainability of both human and natural systems.

“My selfless reason for serving on committees is to help policy makers design good policy,” says Costello. “To do that you have to have access to the latest thinking and research. My selfish reason is that these groups attract high-caliber people, and sometimes new ideas evolve because you’re on the front line and exchanging ideas.”

Bren associate professor James Frew (geo-informatics) has worn several hats as a member of the board of directors of The New Media Studio, a nonprofit organization that “uses emerging multimedia technologies to explore all aspects of the human environment.” They include partnering with the studio in an ongoing project – working name “Skolr” – to develop a searchable online archive for roughly 250,000 posters presented at academic professional meetings each year in the U.S. alone. The Skolr team has calculated that some four thousand person-years go into producing the posters, yet most are thrown away after use.

Frew recently completed a pair of one-year terms as president of the Federation of Earth Science Information Partners. The group brings together individuals and organizations involved in producing, interpreting, and developing applications for Earth and environmental science data. Frew is primarily involved in what NASA calls “technology infusion” — showing how the most recent research technologies can be applied to practical Earth-science and data-management problems. Examples include “MODster,” a system Frew and other federation partners developed “to show how Internet music-sharing technologies could be applied to sharing NASA satellite data.”

Assistant professor Sangwon Suh (corporate environmental management, industrial ecology) has worked on many advisory committees. Among them is the United Nations Environmental Programme (UNEP) International Resource Panel (IRP), where he works closely with former Bren dean and IRP chair Ernst von Weizsäcker. The team assesses how resources are extracted and used in the world, what the impacts are, and how best to “decouple” wealth creation from resource use and environmental degradation — in other words, how to create wealth without further stressing the world’s already stretched resources. “We look for best practices, and also for what didn’t work,” says Suh.

IRP provides independent scientific assessments on policy-relevant issues to government entities, which can use them to design policies. And because the reports are summarized into language that is accessible to anyone and distributed widely, they have greater impact and visibility. One recent report received 300,000 downloads in the first month after being posted on the Internet. “The impact is huge,” says Suh.
Visiting Islands, Thinking Supply Chain

Roland Geyer’s Galápagos journey with the Toyota International Teacher Program

Last November, Roland Geyer, Bren assistant professor of industrial ecology and corporate environmental management, spent ten days in the Galápagos archipelago, becoming the third Bren faculty member to travel abroad with the Toyota International Teacher Program in the past three years. In 2008, Professor Arturo Keller accompanied 24 teachers on a journey through the Galápagos, and last year Professor Tom Dunne traveled to Costa Rica with another group.

Acting as study leader, Geyer presented four lectures on a variety of environmental topics, providing the scientific background and global connections teachers needed to link what they learned in the Galápagos with environmental challenges in their communities and around the world. All the lectures built on economic, social, and environmental realities and behavior, what Dr. Geyer refers to as the “three pillars of sustainability.”

In his first talk, an introduction to environmental sustainability, Geyer offered a big-picture discussion of the Earth, the ecosphere, the natural resources that humans use as inputs in the “anthroposphere,” and the resulting outputs in the form of waste and emissions. “Nature is both a source of the inputs and a sink for the outputs,” he says. “That’s where environmental pressure comes from in terms of biodiversity. In the local context, the Galápagos has loads of species that feel the pressure of humanity’s need for land as a resource. My interest is mostly in the human-nature interface, for which the Galápagos is a great example.”

In the second lecture, Geyer addressed the sustainability of supply chains from an international perspective, demonstrating to the teachers the global impacts of consumer actions we take in the United States. “Natural resources come from one country, they are processed in another, the product is manufactured in a third and then sold in the U.S.,” he says. “What I want the teachers to realize is that what we do and buy every day at the end of the global supply chain has an impact all over the world, back to where the resources came from.”

“For me,” he adds, “the Galápagos is more an example of the human-nature interactions and the pressures that result in a nation where you have treasured ecosystems that are exposed to the effects of human development because they are next to it.”

Geyer says that his overall goal during the ten-day journey was “to contribute to the teachers’ having a desire and also the knowledge and tools to incorporate environmental sustainability into their syllabi and curricula. If they feel inspired to do so from a product-life-cycle perspective, that would be good.”

Imagine that you have just mailed off a donation to your favorite environmental charity or nonprofit. You have that feeling of satisfaction that comes from supporting an organization that makes an impact by pursuing a mission aligned with your values.

Then you learn that a new entity has begun rating such groups, using a scale of zero to four stars. When you see that your charity received three stars, you pause. Doubt arises. You wonder if something might be wrong with your charity. And, as Bren PhD student Laura Grant has discovered, you will be likely to give less — and may even stop supporting it altogether.

Essentially, says Grant, whose PhD dissertation focuses on the effect information, such as that provided by the star rating, has on charitable giving, “The introduction of ratings reduces contributions.”

In studying hundreds of such environmentally focused charitable organizations, she found that while previously unrated charities that receive four stars in a new rating system experience little or no change in donations, only about 20 percent of charities are given that highest-possible score. For the rest, the introduction of a rating system reduces contributions by an average of 10 percent, or about $1 billion per year for the six thousand environmental charities in Grant’s database.

“That’s dramatic,” she says. “It doesn’t mean the dollars disappear, but they do move away from those charities.” And that, of course, affects an organization’s ability to do its work.

So do ratings systems inherently serve as a disincentive to donors? Not always. For instance, gaining a star — moving from, say, three to four stars — tends to increase giving by four to five percent. “There’s a premium or bonus for one more star,” says Grant, who explains the negative impact of a sub-perfect score by adding, “When we choose a charity to support, we pick one that we feel good about, so we assume it should be four-star rated. We can only be disappointed by a less-than-perfect rating.”

She explains that star ratings work fine for hotels because customers don’t mind trading quality for cost. “But few want to support a ‘budget’ charity,” she says. For her research, Grant gathered data on charities rated by Charity Navigator, an organization whose tagline is “Your Guide to Intelligent Giving.” She says that the directors were surprised to discover that their rating system, intended to help donors assess charities, was having the unintended effect of decreasing their giving.

Grant, whose work resides within the general focal area known as “the provision of public goods,” explains, “Basic economic theory asserts that we are self-interested, so why would we provide something that benefits the greater good? The answer depends on the person, but broadly, if we place enough value on the good in question — clean water, species diversity, environmental justice, etc. — or have enough passion for it, we will contribute something for its protection. Giving can also can make us feel good.”

Ratings systems are perceived as valuable because they provide the impression of third-party oversight. Grant gives the example of buying a used car. “Before used-car oversight systems like Carfax and ‘certified pre-owned’ were developed, people were more wary of buying used cars because they didn’t want a lemon.”

With information playing a role in how and why we give, Grant wants to know how it affects whether people give more or less. “We have an implicit sense that more information is desirable, but it’s less clear if and when information becomes overwhelming,” she says.

Human psychology is clearly at work, as is the rating system itself. “Simple information, like stars, may be too coarse,” says Grant. “The easy system may have a disproportionate effect on people’s giving behavior by outweighing other harder-to-measure factors.” One way to address that, she says, is to adjust the performance measure, perhaps by replacing star ratings with short descriptions of the organizations.

Charity Navigator had suspected as much and is adjusting its rating rubric, “moving to a more multidimensional assessment that will have more, and more qualitative, measures, such as transparency and leadership.”
From the World to Bren
The varied paths and purposes of international students

Increasingly, the Bren School is host to students from around the world. They have come from Africa, Canada, Latin America, Europe, and Asia — 26 nations so far — to pursue master’s and PhD degrees while developing the knowledge and skills that will allow them to have an impact, whether back home or somewhere else. They bring their rich cultural heritage to the school while broadening the Bren community’s understanding of the contexts in which environmental challenges arise. Here, we meet ten of these student sojourners, who have traveled far to achieve their goals. (Note: this is an edited version of a longer article; for the complete story, go to: www.bren.ucsb.edu/news/internationals.htm)

Born in Nairobi, Kenya, Julia Glenday (PhD) earned a BS degree from Brown University, writing her senior honors thesis on carbon sequestration in an indigenous rain forest in Kenya. She then spent three years at a municipal environmental agency in Durban, South Africa. Working to initiate river-health pilot projects, she decided to pursue an advanced degree in hydrology and water-resource management. Her advisors at Brown recommended the Bren School PhD program.

With Professor Arturo Keller as her advisor, Julia is examining the impacts that wetlands and wetland restoration projects have on water supply and quality in the face of changes in climate change and land use. Her goal is to develop methods that can be used for restoration or preservation planning.

“New progressive legislation in South Africa mandates the formation of catchment management agencies to work across government departments to manage watersheds,” Julia says. “Kenya and other African nations are following suit, and I hope to be involved in that effort. I’m also considering working at a university in South Africa and fostering connections between institutions in other parts of Africa.”

Dongxu Zhou (PhD) graduated from China’s Peking University, majoring in environmental science and specializing in the fate and transport of pollutants. He came to Bren seeking a more inclusive take on environmental science and management. “This field is broad — from law and management to economics and policy,” he says. “I may do something in my field that will be interdisciplinary or related to other fields. I might need to collaborate with others, and it will be easier if I know what those others are doing.”

Dongxu’s research involves determining how nanoparticles aggregate in aqueous environments, how they attach to each other and become bigger. “It’s important because the size of the particles can indirectly affect their toxicity,” he explains.

He spent the winter quarter studying the aggregation of plutonium during an internship at Los Alamos National Laboratory and says he is pleased with his situation at Bren. “I love my life now; I’m learning a lot and becoming a better person, both professionally and individually,” he says.

During the two years Adeyemi (Yemi) Adeleye (MESM 2011) spent working in a bank after graduating as a microbiology major from Nigeria’s Obafemi Awolowo University in 2006, he knew he would eventually return to the sciences. His goal is to develop solutions to the petroleum-industry pollution that plagues his home country of Nigeria.

He chose the Bren School for its focus on solutions. “There is a lot of emphasis on the practical aspect of problem-solving, and the curriculum is flexible and interdisciplinary,” he says.

Yemi will graduate in June with specializations in Pollution Prevention and Remediation as well as Corporate Environmental Management. He will also have a new, broadened perspective...
on environmental challenges.

"Oil drilling in Nigeria is not going to stop any time soon; it’s our main resource," he says. "The solution has to be more robust than simply asking oil companies to stop. How do we put proper policies in place to support what we want to do, and how do we ensure that they are followed? How does the solution fit within the nation’s economic needs? How do we find what’s been spilled and mitigate that? The program has really expanded my view of the issues involved. I see a lot of difference in myself from when I arrived until now."

Ning Jiang (PhD) grew up in the coastal city of Qingdao, in northeastern China. Although the tourism-focused town had no heavy industry, Ning remembers having to hold her nose while walking past the black-water creek in her neighborhood, wearing a mask to filter the polluted air, and coming home with the shoes she had cleaned that morning covered in dust.

She finished her last two years of high school in Boston and then entered the pre-med path at Boston University. But a semester in New Zealand caused her to change focus.

"Spending time in New Zealand really got me interested in pursuing environmental science," she says. "I wanted to do something that helped people, and I thought that medicine was the path. Then I realized that environmental science can help people on a greater scale because environmental health is at the root of human health."

With Bren professor of microbiology Trish Holden as her advisor, Ning plans to explore an under-defined connection between the dynamics of the Carpinteria salt marsh’s microbial community and its ability to remove nitrogen. The relationship has been studied and partially established, but an accurate understanding of the connection is still lacking.

In 2007 José Jaime Sainz Santamaria (PhD) was working for the National institute of Ecology, a research agency of the Secretary of Environment and Natural Resources in Mexico, interacting with water-hydrology academicians and translating their work into policy. But to do the job right, he says, "I felt I needed more knowledge and more rigorous methodologies. In Mexico, you find a lot of people saying a forest is important, but there are not enough quantitative analyses to determine what the actual benefits are. I wanted to go beyond that, so I decided to enter a PhD program."

He was already well situated to take advantage of the Bren School’s multidisciplinary foundation. "I was accustomed to taking information from different people who used different approaches," he says. "I didn’t want a highly disciplinary PhD, because I want to investigate problems from many perspectives. Reality is complex, and a model from any one discipline is, by definition, a simplification. Economics has some part of the truth. Psychology has another part. If you take the insights of two or three disciplines, you have a better understanding of the complex whole. In a policy context, you need that interdisciplinary approach."

Katharina Stelzl (MESM 2012) came to the Bren School as a Fulbright Fellow after graduating with a degree in process engineering (with a specialization in environmental engineering) from Germany’s University of Applied Sciences in Offenburg. Her path to Bren came through former dean Ernst von Weizsäcker, whose book Factor Four she had studied in a class about various philosophies of recycling.
technology. When she saw a newspaper article mentioning that he was dean here, she recalls thinking, “Interesting, what is this school?”

The attraction for Katharina was the blend of science and management. “I come from a science and engineering background, and I thought the management part might be helpful to broaden my knowledge,” she says, adding that while she loves lab work, “I don’t want to be only a lab worker. I want to understand why, for example, certain projects get done and others don’t — the management decision making, the bigger picture.”

In addition to knowing that support is available thanks to accessible faculty, TAs and core-course discussion groups, Katharina appreciates the school’s career-development services.

An attorney in his native Brazil and the father of two boys, aged four and five, Christian Wiesenthal (MESM 2012) found himself conducting business in Brazil while living in the U.S. But he had also worked to secure international financing for environmental projects in Brazil relating to ecosystem services and tropical forest conservation. He wanted to earn a degree in the U.S. to pursue that work further.

Specializing in Corporate Environmental Management, his focus is carbon markets, specifically reducing emissions from deforestation and forest degradation (REDD). “The question,” he says, “is how to monetize the ecosystem service — carbon sequestration — that the forest provides.”

He’s happy with his decision to come to Bren, and the flexibility that allows him to complete the program in three years so that he can care for his boys. “I can’t say enough good things about it. The program is extremely demanding and requires your full dedication, but the support system...”

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MESM Class Project Enters the Literature
Putting old data to new use, students predict climate change outcomes for trout

For professors, publishing in scholarly journals is the norm; for master’s students, it’s rare. But last year Bren MESM alumni Erica Meyers and Bridget Dobrowski (both MESM ’09) joined Bren associate professor Christina Tague as co-authors of a published paper from a project Tague had assigned as coursework in her class “Climate Change Impacts and Adaptation.”

“Climate Change Impacts on Flood Frequency, Intensity, and Timing May Affect Trout Species in Sagehen Creek, California,” appeared in the journal Transactions of the American Fisheries Society. The project was part of a class assignment in ESM 237, in which students were asked to examine scientific data and identify possible trends.

Meyers and Dobrowski researched the scientific literature and found some experiments that had been done in the 1970s showing the sensitivity of two trout species to various flooding scenarios. They combined those early field-monitoring studies with streamflow predictions from the Regional Hydro-Ecologic Simulation System (RHESys) model, which Tague helped to develop, to show how climate change-driven changes in snowmelt and the timing of floods could alter the competition between brook trout and rainbow trout.

They examined model output for climates that were two and four degrees warmer than currently, and then combined the output with the field studies to determine the implications of the changes. Their conclusion was that brook trout would suffer while rainbow trout would thrive under the altered climatic conditions.

“They found it,” Tague says. “The model has hundreds of outputs, and they found something they could link with the literature. That takes work and creativity and the technical ability to analyze the data statistically.”

The fact that the project led to a publication, Tague says, “shows that other people care about their work, too, and that we have master’s students who really want to understand what the data means in the context of climate change and managing resources. They understand the difference between hand-waving about climate change impacts and coming up with a scientifically defensible, quantifiable best estimate of what the impacts will be.”

“This was a wonderful experience. As MESMs, we were well-prepared to handle the research and technical requirements necessary to publish this paper,” said Meyers. “We feel privileged to be part of a community where students have the opportunity to continue collaborating with faculty beyond graduation.”

Dobrowski is currently a program associate at Santa Barbara–based Sustainable Agriculture and Food Systems Funders, while Meyers is working as a Water and Natural Resources Scientist at Geosyntec Consultants, also in Santa Barbara.
is in place and the professors are accessible, so you can go as deep as you want in the subjects you choose,” he says. “It’s clear to me what a high level of students we have. All of my group experiences have been positive. The bar is high. Everyone’s always pushing each other. They’re all here to accomplish something.”

As an undergraduate at the University of Regina in Saskatchewan, Canada, Seth Lalonde (MESM 2011) was looking for a way to combine his two areas of focus — computer science and biology. But there were no multidisciplinary programs to be found in Canada. After a few years of working in the telecommunications software industry, he joined a start-up in Kelowna, British Columbia. He bought a house in a farming area, with orchards overlooking Okanagan Lake, found himself “inspired by the natural aspect of it,” and started thinking about working in an environmental field.

Preparing now to graduate from Bren with a specialization in Conservation Planning, he is seeking work, perhaps for a consulting firm, that will allow him to balance his interests and abilities in analytical computer work with his evolving expertise in conservation management, hopefully in the San Francisco Bay area.

“I’m where I want to be,” he says. “What I’ve enjoyed about the program is that we’re able to ask big questions, and then we’re given the tools to do the analysis. I’ve acquired the variety of knowledge and skills that I hope will allow me to leverage my analytical ability and GIS work in the context of conservation-related projects.”

While developing a method for testing materials as an undergraduate agricultural-science student at Japan’s Nagoya University, Tetsuhisa (Tetsu) Kamiya (MESM 2011) found himself interacting with colleagues in architecture, engineering, and chemistry. “I liked that atmosphere, talking to people from different disciplines, so I changed my major to environmental studies, hoping it would be more interdisciplinary than agriculture was,” he says. He then looked for an interdisciplinary program and heard about the Bren School at a talk presented in Japan by former dean Ernst von Weizsäcker.

“He said to us that people at Bren were learning to actually solve environmental problems,” Tetsu recalls. “On the website, the program looked new and unusual; I had never seen anything as diverse.”

During an internship at the International Union for the Conservation of Nature in Switzerland, he summarized a major report on financing biodiversity, and worked on materials to educate environmental professionals who are not familiar with applying an economics perspective to environmental issues.

“The first-year core classes at Bren — economics, environmental policy — gave me a good base that allowed me to go to Geneva and be able talk with professionals and do that work,” he says. “It established a baseline for me to be able to stand on the same stage.”

As an 18-year-old, Englishman Harry Vickers (MESM 2012) spent several months traveling with nomads in the Gobi Desert and cycled through Laos and Vietnam. After graduating in 2009 with a degree in history and politics from the University of Nottingham, he campaigned for an environmentally engaged British politician. He then spent three months in Rwanda, working for a grassroots nonprofit focused on housing and sustainable farming.

Now at Bren, he is pursuing his MESM degree with Rwanda on his mind. “I was moved by the apocalypse the Rwandan people recovered from and the challenges they face in terms of sustainability, and I’m inspired by their pride in their new society,” he says. “I’m driven to learn ways to help in the recovery process and figure out how to develop wealth, given an increasing population and declining resources.”

He is working toward that while enjoying what he describes as “the fantastic Bren community,” adding, “One of the best things about Bren is my contemporaries here. They’re of varied backgrounds, ages, and opinions, but they are all motivated by the goal of making a difference.”
New Corporate Partners
Corporate Partners invest in corporate sustainability and the development of Bren students as future leaders in the field of environmental science and management.

Santa Ynez Band of Chumash Indians. The Santa Ynez Chumash occupy a reservation in the Santa Ynez Valley and own and operate the Chumash Casino Resort. The tribe’s environmental office — founded in 1998 and now managed by Bren alumnus Josh Simmons (MESM 2008), with assistance from Bren alumni Jesse Patterson (MESM 2008), Julie Randall (MESM 2009), and Anna Brittain (MESM 2010) — pursues ambitious sustainability programs in the areas of solid-waste management, natural-resource restoration and protection, energy efficiency, renewable-energy development, alternative fuels, and greening tribal operations.

Kaiser Permanente.
Kaiser Permanente. Recognizing that healthy communities and a healthy environment are critical to the health and wellness of every person, in 2010 Kaiser Permanente developed a Sustainability Scorecard, the first of its kind in health care, requiring suppliers to provide environmental data for $1 billion worth of medical equipment and products used in Kaiser’s hospitals, medical offices and other facilities. The program builds on existing environmental guidelines for products ranging from greener cleaning chemicals to IV tubing that are free of potentially harmful chemicals. Kaiser Permanente is also committed to reducing its carbon footprint and has undertaken an ambitious solar-power project at 15 of its facilities and is working to install fuel-cell power plants at seven California facilities by the end of 2011.

Donors & Partners

Corporate Summit
The annual Bren School Corporate Partners Summit will take place May 19-20, 2011. The theme for this year’s event, which is by-invitation, is “Implementation of AB32: California’s Global Warming Solutions Act.”

The annual Corporate Partners Summit provides senior executives from Corporate Partner organizations with the opportunity to converse in a non-partisan environment to discuss needs, challenges, and strategies affecting their industries. The chance to network across business sectors is both rare and important, as solutions to environmental problems often span industries, disciplines, and jurisdictions.

This year’s event will begin on May 19 with a celebration of the new Edison International Visitors Center, funded by Corporate Partner Southern California Edison. For more about the Corporate Partners program, or to become a Bren School Corporate Partner, please contact Corporate Liaison Saren Brown at 805-893-7457.

Edison International Visitors Center Grand Opening
The Bren School will celebrate the grand opening of the Edison International Visitors Center on May 19 at 4 p.m. Renovated and enhanced thanks to a generous gift from Corporate Partner Southern California Edison (SCE), the new visitors center will feature interactive displays on sustainability, serve as a starting point for tours of Bren Hall, and extend the school’s ability to perform outreach to the community. The grand opening will feature a talk on the state of the environment by Linda Adams, Secretary of the California EPA, as well as remarks by SCE officials and Bren School representatives, plus a master’s Group project poster session, live music, and refreshments. More information at www.bren.ucsb.edu/events/visitors_center.htm.

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1999

Ryan Pingree (MESM) was promoted to manager of TEC’s San Diego office. He is responsible for operations in the San Diego area and continues to manage complex National Environmental Policy Act and water-resource projects throughout the southwestern U.S.

Claire Eustace (MESM) and her husband, Amit Shoham, have a young daughter, Ilana, born September 13, 2009. Amit and Claire married in June 2008 and honeymooned in northern India. Claire has performed energy policy work in the Division of Ratepayer Advocates at the California Public Utilities Commission since 2008.

2000

Jill Richardson (MESM) has accepted a position as recycling coordinator with Waste Management in Castroville, California. She moved to Pacific Grove in late March. Bren alumni living in the area can reach her via jrichardson@bren.ucsb.edu.

2003

Ryan Harding (MESM) and his wife, Wendy, celebrated the birth of their first daughter, Margaux Elice, on Nov. 22, 2010. Ryan also accepted the position of General Manager of Northern California Operations for his employer, American Integrated Services (AIS) in the San Francisco Bay area.

2005

Tim Olsen (MESM) returned to the consulting firm Environmental Resources Management in Irvine, California, where he is a project scientist specializing in air quality and sustainability. He and his wife, Nicole, have a new house in Anaheim Hills and were expecting their first child in April.

Entering his second year of being off duty from the Marine Corps, James Uwins (MESM) is pursuing a career at ManTech International. He says his group “does some really interesting work at the Department of Defense level on range sustainability, as well as environmental impact statements.”

Former Santa Barbara City Councilman Das Williams (MESM) was elected to the California State Assembly representing the 35th Assembly District and has since been appointed to several standing committees and boards. On Jan. 22, he married Jonnie Reinhold, project director of the Youth Methamphetamine Suicide Prevention grant at the American Indian Health & Services.

2006

Stacey Kilarski (MESM) spent November as part of an international team of scientists performing benthic community composition surveys throughout Apra Harbor, Guam. The team identified and quantified communities of algae, invertebrates, and corals that lie within the footprint of a proposed pier for nuclear-powered aircraft carrier.

2007

Yolanda Crous (MESM) was featured in a photo essay with audio commentary on the bestfriends.org website. The group performs compassionate work with abused dogs in New York City’s animal shelter. See the images at bit.ly/eySXGv.

Robin (Saklani) Kent (MESM) has been promoted to Senior Scientist at HDR|DTA, the consulting and engineering firm where she has worked for more than three years. She is located in Sacramento.

Renee Lafrenz (MESM) was married to Andrew Moore in San Francisco on October 9, 2010. Cheryl Lee (MESM 2007) served as one of the bridesmaids. Renee is currently working at the Alliance to Save Energy, where she manages the Green Campus Program.

Hannah Muller (MESM) and Tim Masterjohn married on July 3, 2010, then honeymooned on Costa Rica’s Osa Peninsula. They live in Washington, D.C., where Hannah leads the U.S. Department of Energy’s Solar America Communities program and Tim is general manager and partner of Floriana Restaurant.

2008

Claire (Early) Myers (MESM), her husband, Erin, and their new daughter, Sonia, hosted a group of friends from the Class of 2008 at her family cabin in Twain Harte, California, for a ski weekend. The group included Kelly Schmandt, Jen (Miller) DuBuisson, Chris Helmer, Evan Johnson, Ashley Conrad-Saydah, Max

DuBuisson, Erin (Myers) Madeira, Josh Madeira, Julia Nelson (a non-Bren friend), and Ben Myers. (Note: the two Myers couples are not related.)

Melissa Gomez (MESM) co-opened a restaurant in Old Town Goleta called Goodland Kitchen. The grab-and-go restaurant serves only produce grown in Santa Barbara County. She hopes it becomes a hangout for Bren students and alums! Check out the menu at www.goodlandkitchen.com.

Tim Kidman (MESM) left the California Public Utilities Commission to accept a position as a climate change analyst at Science Applications International Corporation (SAIC), where his supervisor is Bren alumna Jill Gravender (MESM 1999), director of climate change services for SAIC’s western region.

As the U.S. Environmental Investigation Agency (EIA) investigates Gibson guitars on suspicion of importing illegally harvested wood from the national parks of Madagascar, Anne Middleton (MESM) is rallying support in the music industry to legalize the music wood trade. For more information on EIA, go to www.eia-global.org/lacey or contact Anne at annemiddleton@eia-global.org.
are expecting their first child, a boy, on June 18.

Scott Webb (MESM) reports that the “Cofan Group Project” received the “Best Poster Presentation of the Conference” award at the U.S. EPA’s 19th Annual Emissions Inventory Conference, held Sept. 27-30 in San Antonio, Texas. The other group members were Heather Abbey, Carolyn Ching, Tyson Eckerle, and Emily Welborn.

2010

Hylton Edingfield (MESM) was hired last September as a GIS database manager for Geosyntec Consultants. He’s still living in Santa Barbara and playing with Brenggrass.

After eight years of marriage, Dana Murray (MESM) and her husband, Bryan, are expecting their first child on July 4. Dana is working as a staff marine scientist with the Los Angeles-based nonprofit organization Heal the Bay. She is responsible for marine- and coastal-resources-related technical and policy projects for Heal the Bay.

Aaron Wdowin (MESM) is working in sales and business development for California Solar in Oxnard, California. The company began installing a 200kW solar project in Encino in March, the largest project ever for the 25-year-old firm, and Aaron’s "first big job."

As Green Communities Coordinator for Westwood, Massachusetts, Justin Whitett (MESM) is helping the town conduct an energy inventory and develop energy-reduction plans, with the goal of becoming a state certified “Green Community.” Since summer 2010, he also conducted extensive research for the San Francisco State University Department of Economics; his focus was the economic impacts of sea-level rise.

2009
Kristian Beadle (MESM), shown here among highland coffee plants, has recently been traveling in southern Mexico, where he continues to write about climate adaptation and resilience in Mexico. A blog about his work can be seen on the Miller-McCune website and also at www.voyageofkiri.com.

Vared Doctori Blass (PhD) accepted a position at Tel Aviv University’s Leon Recanati Graduate School of Business Administration, were she is focusing on the intersection of business and the environment. She also received a four-year grant from the European Union to continue her e-waste and cell phone end-of-life research and is working on issues of resource productivity and sustainable industrial growth with the Israeli Ministry of Environmental Protection.

Milli Chennell (MESM) is heading to Fiji in May for the Peace Corps. Beyond knowing that she will be working on environmental-resource management, she is not sure whether her specific assignment might be focused on coastal, terrestrial, or riparian issues. “In any case,” she says, “it’ll be an adventure!”

Lauren (Hess) Saez (MESM), a fishery biologist at the National Marine Fisheries Service’s Southwest Regional Office, supported the 2011 Group Project that studied ways to avoid collisions between ships and whales in the Santa Barbara Channel. Recently, Lauren and her husband, Jeb, bought a home in Thousand Oaks, California. They
quantitative take on the environmental curriculum.”

He graduated with a specialization in biogeochemistry, then spent a couple of years with the environmental consulting firm Larry Walker Associates. He entered the financial industry in 2000 and has been with Santa Barbara Asset Management since 2001.

Now, as a portfolio manager, he says, “There are few people who have the scientific credentials to have credibility in my area of focus. I do, thanks largely to Bren.”

Smith’s understanding of environmental science and economic incentives informed his idea for a new kind of SRI fund based on positive, rather than negative, screening. His idea was to rate companies based on a series of positive criteria in two main areas: the environment and climate change — and to include the best companies in the fund.

“For example,” he writes in swissHEDGE, “you might rank the entire S&P 500 based on intensity of carbon emissions per dollar of revenue. Then, you could limit your universe to companies that are among the top half for this measure in their peer group.”

He goes on to posit a hypothetical fund in which positive screening would be used to assess which oil and gas companies could be included. The “screen” might be a threshold of carbon intensity (CO₂ emissions per dollar of revenue) set at the industry mean of 3.77. Exxon Mobil, at 3.80, would be excluded. But if it could reduce its emissions by one percent, it would pass the screen while also reducing its CO₂ impact by an amount equal to removing more than 11 million cars from U.S. highways.

He continues, “Now imagine that you are the chief investing officer of all SRI investments globally, having $6 trillion of capital to allocate. A 1% allocation of your fund that might go into Exxon would be $60 billion, 17% of Exxon’s market capitalization or almost equal to their past four years of capital expenditures. You think they might listen? How about if you threatened to offer that $60 billion to PetroChina to do the same thing?”

“Negative screens handicap investors,” he says. “Plus, you’re disengaging and therefore have no influence on the very behavior you are trying to change, but a positive assessment can put more pressure on a company to improve. Rewarding companies to act ethically incentivizes ethical behavior.”

To create the EcoLogic fund, he developed an algorithm that gave weighted values to each of more than forty variables, such as whether a company has a carbon emissions target and whether executive compensation is based in part on attaining environmental compliance goals. Smith then broke down the investable universe into 22 industry groups and compared each company only to others in its peer group to identify his investable universe. Since 2007, its first full year of performance, the EcoLogic fund has outperformed the S&P 500.

Nor is it tied exclusively to traditional “green” industries. “I want this to be a good, steady fund, not an alternative-energy fund that is wildly volatile depending on the price of fossil fuels,” he says.

The greater effect of SRI, Smith explains, is that if ethical behavior generates good returns, other companies will mimic that behavior, and if enough returns are generated by enough companies acting ethically so that it gains widespread attention, everyone will eventually adopt it. At that point, Smith writes, “The field of play is again level, but at a higher ethical plane.... The bar is continually raised.”