Professor	Department(s)	Deparment 2	Department 3	Brief description of how their research relates to sustainability (1-3 sentences)	Related to Enviro/econ /soc	Website
Kundu, Manasendu	Anthropology	Environmental Studies		Dr. Kundu's research involves finding a farmer-friendly model of agricultural land acquisition (from the farmers) for industrial development in West Bengal state of India, his home state. Kundu's published work explores the nature and history of local government systems in the state. Currently, as a Visiting Faculty at the Indian Institute of Engineering Science and Technology, his interests also include promoting the practice of sustainable organic farming in West Bengal.	Env, Soc	
Ford, Anabel	Anthropology			Dr. Ford's archaeological field and laboratory work has concentrated in the upper Belize River area and El Pilar, and has both basic and applied components. Working on the development of complexity and land use and land cover change, data have been collected on ancient Maya settlement patterns and household belongings. Finding a major Maya center, El Pilar, has lead to studies of conservation and development of the Maya Forest working towards the preservation of the cultural heritage in the context of the natural Environment, what we call Archaeology Under the Canopy. Community and protected area development play a role in the field projects where we share research goals with citizen scientists. Results have impacted the interpretation of sustainability in the tropics today.	Env, Soc	https://marc.ucsb.edu/ http://exploringsolutionspast.org/
Walsh Casey	Anthropology			Dr. Walsh takes an anthropological approach to understanding political economy and the Environment. His first book, "Building the Borderlands," shows how water, land, and labor were organized to produce cotton in northern Mexico and the southwestern United States. A subsequent book, "Virtuous Waters," tells the history of how mineral springs were conceptualized and used in Mexico since the conquest. His current book project, "Groundwater and Grapes in California's Central Coast," assesses the impact of expanding wine grape cultivation on groundwater management in Santa Barbara and San Luis Obispo Counties. Particular attention is given to the recent capitalization of the sector, the depletion of aquifers, and the ensuing creation and implementation of laws regulating groundwater in California. This research situates the local social and Environmental dimensions of the expansion of wine grape production within global markets and climate change.	Env, Soc	<u>http://www.anth.ucsb.</u> <u>edu/faculty/Walsh/Walsh.php</u>
Welter, Volker	Architecture			Professor Welter's research includes the theory and history of sustainable architecture and how the Environment and architecture are related. He studies the history and culture surrounding the development of techniques used in sustainable architecture, such as passive heating and cooling in buildings.	Env, Soc	

Jevbratt, Lisa	Art		and art is currently focusing on investigating human's relationship with animals and the natural Environment. She is developing software that simulates how animals see, and she is teaches a yearly class in interspecies collaboration in the art department. She is leading a fiber arts project investigating invasive species on the Channel Islands and larger issues of conservation. The project is giving its audience-participants hands on experience with historical methods of textile production, raising questions about the sustainability of our current textile industry. Her work and teaching is continuously engaged with questions about sustainability though examining	Env, Soc	http://artsite.arts.ucsb. edu/people/faculty/jevbratt.html
			the relationships we create with other species and our shared Environment.		
Peljhan, Marko	Art		Professor Peljhan's research focuses on art and technology. His recent projects involve the Makrolab, a project that focuses on telecommunications, migrations, and weather systems research in an intersection of art and science from 1997-2007, and he is currently coordinating the Arctic Perspective Initiative art/science/tactical media project which is focused on the global significance of the Arctic geopolitical, natural, and cultural spheres.	Env, Soc	http://artsite.arts.ucsb. edu/people/faculty/peljhan.html
Mia Charlene White	Black Studies		Professor White's research involves researching the intersection of "the city" as a domain and as a generative site for justice in social, economic, ecological, and Environmental realms. One of her current courses examines these elements and how, together, they produce the "Just City."	Env, Soc	
Gaines, Steve	Bren	Ecology, Evolution & Marine Biology	Dr. Gaines' research addresses a broad range of issues in ecology, sustainable fisheries, conservation biology, and climate change. More specifically, he focuses on how different populations respond to climate variation, as well as on the design elements that enhance both conservation and fisheries management. Dr. Gaines also studies exotic species patterns and biodiversity.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/gaines/index.html
Libecap, Gary	Bren	Economics	Dr. Van de Walle's research covers a broad range of issues related to renewable energy and energy efficiency. He is engaged in fundamental studies of group-III nitride semiconductors, the key materials for solid-state lighting, and gallium oxide, a novel material that will make high-power electronics much more efficient. He also investigates hydrogen storage materials and materials for fuel cells and coatings for smart energy-saving windows.	Soc, Env, econ	

Larsen, Ashley	Bren	ESM	Doctor Larsen's research interests center on the ecology of managed systems. Her research combines insights from ecology with causal inference and GIScience tools to better understand how to produce the necessary food and fiber for a growing population while maintaining healthy ecological and human communities. Her current projects focus on the consequences of land use change in agricultural systems, understanding the landscape drivers of agricultural pests, and the ecological and Environmental health consequences of agricultural inputs. She has contributed to highly interdisciplinary teams on a range of topics from Lyme diseas to sustainable fisheries.		
Caylor, Kelly	Bren	Geography	Dr. Caylor's research addresses the coupled feedbacks between terrestrial vegetation and surface hydrological dynamics, with a focus on the causes and consequences of spatial patterns in plants and their accompanying root system within water-limited landscapes. The research approach integrates theoretical development, field observations, and simulation modeling to develop new insight into the complex ecohydrological controls on water balance in water-limited landscapes. Dr. Caylor examines these topics at a number of spatial and temporal scales; from patch-level experimental ar observational work to regional-scale investigations that rely heavily on numerical modeling and the application of remote sensing technologies.		
Anderson, Sarah	Bren		Dr. Anderson's research focuses on understanding how the political system affects and is affected by Environmental issues. She often focuses on wildfire management as an example of the complex governance required for Environmer problems	Enviro, Econ,Soc al	http://fiesta.bren.ucsb.edu/~sanderson/
Ben Halpern	Bren		Dr. Ben Halpern focuses his research at the interface betwee marine ecology and conservation biology. His research focuses on global food systems, especially aquaculture and fisheries, the impacts of climate change on marine species a well as coupled human-natural systems, and the impacts of multiple stressors on coastal oceans, and strategic conservation planning and prioritization. His research has addressed a broad range of questions that span local to glob scales, including spatial population dynamics, trophic interactions in community ecology, and the interface between ecology and human dynamics, all with the ultimate aim to inform and facilitate conservation and resource management efforts in marine systems.	; · · ·	http://msi.ucsb.edu/people/faculty/benjamin- halpern
Booth, Derek	Bren		Dr. Booth's recent projects span the fields of watershed assessment and planning, stormwater management, and stream restoration. Previously, he was a research professor i the departments of Civil & Environmental Engineering and Earth & Space Sciences at the University of Washington; he retains an active position as affiliate professor in both departments. He is presently the Senior Editor of the international scientific journal Quaternary Research and was past president of Stillwater Sciences, Inc.	Env	

Bruno Nkuiya	Bren	Dr. Nkuiya is interested in multidisciplinary research or Environmental and resource economics, and biology. Specifically, he collaborated with ecologists from the N Center of Ecological Analysis and Synthesis on the Oc Tipping Points project, which is aimed at contributing to sustainable use of marine resources prone to tipping p is the author of several economic papers dealing with or Environmental management under unstable Enviror including political and climate regime shifts. His is curr working on optimal and strategic management of fish s Environmental resources under uncertain Environmen conditions and various property rights structures.	lational cean o a points. He fisheries nments rently stocks or	http://sfg.msi.ucsb.edu/about- us/people/sfgteam/Bruno_Nkuiya
Buntaine, Mark	Bren	Mark Buntaine's research investigates the sources of e Environmental policy in developing countries, with an on the targeting and impact of foreign aid. Although ma the world's most significant Environmental problems o developing countries, the implementation of Environme policies is often challenging because of inadequate res and poor governance.	emphasis any of ccur in ental	http://www.bren.ucsb. edu/people/faculty/mark_buntaine.htm
Costello, Christopher	Bren	Dr. Costello's research focuses on natural resource management and property rights under uncertainty, wi particular emphasis on information, its value, and its e management decisions. He studies how to design and the performance of markets for Environmental goods; specifically, he concentrates on sustainable fisheries a Environmental markets.	ffect on evaluate	http://fiesta.bren.ucsb.edu/~costello/
Dozier, Jeff	Bren	Dr. Dozier's research interests are in the fields of snow hydrology, earth system science, remote sensing, and information systems. His current research projects incl analyzing snow-climate interactions and snow runoff. I researching snowmelt runoff estimates in High Asia, w billion people depend on snow and ice melt for their waresources.	lude He is here a	http://www.bren.ucsb. edu/people/Faculty/jeff_dozier.htm
Dunne, Thomas	Bren	Dr. Dunne's research has focused on issues related to hazards and resource management. He conducts field theoretical studies of drainage-basin, hillslope, and flu geomorphology, and in the application of hydrology, se transport, and geomorphology to landscape managem hazard analysis. He is now studying how physical and biological processes interact to create and maintain ha fish and food sources in the Merced River,CA and the debris flow hazards represented by the 2018 destruction Montecito, CA	l and vial ediment ent and abitat for origin of	http://www.bren.ucsb. edu/people/Faculty/thomas_dunne.htm

Eric Masanet	Bren	Prospective energy systems modeling, sustainable manufacturing, life cycle assessment. Eric Masanet leads the Industrial Sustainability Analysis Laboratory, which develops mathematical models and decision support tools to quantify opportunities for reducing energy and resource use in industrial technology systems. These models and tools are used by manufacturers and policy makers to identify technological, behavioral, and policy pathways toward more sustainable products and processes. In the Classroom: Professor Masanet teaches graduate level courses on Environmental management, energy demand analysis, and green product design.	Env	https://scholar.google.com/citations? user=B3lsw18AAAAJ&hl=en
Fleishman, Erica	Bren	Dr. Fleishman's research focuses on applications of Environmental science to management of public and private lands in the western United States. Her research explains and projects the responses of animals to changes in land cover, land use, and climate. By using predictive modeling and geospatial analysis, her research aims to develop scientifically reliable, cost-effective approaches for understanding the distribution of assemblages and species and underlying mechanisms.	Env	<u>http://www.eri.ucsb.edu/people/erica-</u> fleishman
Frew, James	Bren	Dr. Frew's research interests lie in the field of Environmental informatics, and information management. Subsets of this include remote sensing, image processing, massive distributed data systems, digital libraries, computational provenance, science data archives, and array databases. He currently advises the UCSB Library on research data curation, and has research funding for data citation (NSF) and satellite image databases (Intel Corp.)	Env	http://eil.bren.ucsb.edu/~frew/
Geyer, Roland	Bren	Dr. Geyer's research focuses on industrial ecology. His research interests include the life cycle of manufactured goods and the Environmental and economic potential of reuse and recycling activities. His overarching research goal is to help develop the science and knowledge necessary to reduce the Environmental impact from industrial production and consumption.	Env, Econ	http://www.esm.ucsb. edu/people/Faculty/roland_geyer.htm
Hannah, Lee	Bren	As Senior Fellow in Climate Change Biology at Conservation International's (CI) Center for Applied Biodiversity Science, Dr. Hannah examines the role of climate change in conservation planning. His research models climate impacts on species in California and, with the National Botanical Institute in Cape Town, South Africa, models biotic change resulting from global warming in biodiversity hot spots.	Env	http://www.bren.ucsb. edu/people/Faculty/lee_hannah.htm

Hanrahan, Michael	Bren	Professor Hanrahan is the founder and lead producer of Earth Media Lab, an organization that provides professional film production training with the goal of communicating Environmental problems such as climate change, pollution, and resource issues. He is a filmmaker and has produced films for clients such as National Geographic, The Nature Conservancy, and NOAA. Hanrahan collaborated on a series of short films documenting the 2010 Deepwater Horizon oil spill and its biological impact in the Gulf of Mexico. He worked on another film documenting restoration work on Santa Cruz Island.	Env	
Holden, Patricia	Bren	Dr. Holden's research blends Environmental engineering with soil microbiology. Her current research projects deal with the interactive effects of soil, water, and nutrients on bacterial processes, as well as coastal water quality in urban Environments. She focuses on bacteria as both an agent of Environmental restoration and of Environmental degradation.	Env	http://www.bren.ucsb. edu/people/Faculty/patricia_holden.htm
Keller, Arturo	Bren	Dr. Keller's research focuses on the sustainable use of chemicals and materials in our modern society by understanding and quantifying their potential impacts and by seeking ways to minimize impacts while achieving the benefits. He is particularly interested in emerging materials such as nanoparticles and biochemicals, for which little information is available. He also does work at large scales to design better management strategies for common chemicals such as fertilizers and pesticides.	Env	http://www.bren.ucsb.edu/~keller
Kelsey Jack	Bren	My research is at the intersection of Environmental and development economics, with a focus on how individuals, households, and communities decide to use natural resources and provide public goods. Much of my research uses field experiments to test theory and new policy innovations. I have done research in numerous countries in Africa, Asia and Latin America, and have ongoing work in South Africa, Uganda, Zambia and Niger. I co-chair the Environment and Energy sector at J-PAL and direct the Poverty Alleviation group at emLab.	Env	http://kelseyjack.bren.ucsb.edu/research.html
Kendall, Bruce	Bren	Dr. Kendall applies the science of population ecology to the conservation of rare species and to the management of harvested populations. His research focuses on the causes of population fluctuation, the prediction of the extinction of rare species, and the effects of current-driven dispersal on marine fish species. He also studies the design of protected areas for biodiversity conservation and fisheries management and how	Env	http://www.bren.ucsb. edu/people/Faculty/bruce_kendall.htm
Kuczenski, Brandon	Bren	Brandon Kuczenski is a researcher and consultant in industrial ecology. His research focuses on methods and applications of life cycle assessment, with particular attention to the problems of data reuse, critical review, and transparency and reproducibility of study results. He is interested in the development of Web-based technologies for sharing product system models, and cryptographic techniques for protecting the privacy of confidential information during publication. He also studies the Environmental implications of waste management, recycling, and extended producer responsibility.	Env, Soc	http://iee.ucsb.edu/faculty/kuczenski

Lenihan, Hunter	Bren	Dr. Lenihan's primary research interests lie in population and community ecology, especially in connection with coral reefs, estuaries, marine fisheries management, habitat restoration, aquaculture, and ecotoxicology. He is working on projects that aim to enhance coral reef management and restoration, sustainable aquaculture, mitigating Environmental harm caused by emerging chemicals, and managing coastal marine fisheries, for example those targeting sharks and invertebrates.	Env	http://fiesta.bren.ucsb.edu/~lenihan/
Meng, Kyle	Bren	Dr. Meng explores particular empirical settings selected to inform upon a world under anthropogenic climate change. Examples include examining the relationship between adverse local weather driven by the El Ninő Southern Oscillation and the onset of civil wars in the tropics during recent decades; using betting markets to elicit beliefs over the cost of U.S. climate policy; and studying the development of 20th-century U. S. coal-fired electricity capacity to inform upon a future low- carbon energy transition.	Envir, econ	http://www.kylemeng.com/
Roehrdanz, Patrick	Bren	Roehrdanz's research focuses on the global analysis of climate change impacts on wine production and conservation. More specifically, his research examines how climate change will impact the areas where wine grapes can be grown in the future. And as viticulture moves to cooler areas –by going north or to higher altitudes– it could intrude on habitat favored by caribou, grizzly bears and other mountain species and have far-reaching implications for conservation. This research is a good test case for measuring the impacts of climate change refracted through agriculture.	Env	
Salzman, Jim	Bren	Dr. Salzman's broad-ranging scholarship has addressed topics spanning drinking water, trade and Environment conflicts, policy instrument design, and the legal and institutional issues in creating markets for ecosystem services. His most recent book, Drinking Water: A History, was praised as a "Recommended Read" by Scientific American and is in its third printing. His co-authored casebook, International Environmental Law and Policy, is in its 5th edition and the market leader with adoptions at over two hundred schools around the world.	Env, Soc,	<u>http://ees.bren.ucsb.</u> edu/people/Faculty/james_salzman.htm
Scott Jasechko	Bren	ANALYSES OF LARGE DATASETS TO BETTER UNDERSTAND FRESH WATER	Env	JASECHKO.com
Suh, Sangwon	Bren	Dr. Suh's research focuses on sustainability through understanding materials and energy exchanges between nature and humans. His work has involved carbon footprinting, understanding drivers of greenhouse gas emissions, climate change, and industrial ecology.	Enviro, Soc	http://www.bren.ucsb. edu/people/Faculty/sangwon_suh.htm

	1					
Tague, Christina	Bren		a c c i i i f	Dr. Tague studies ecohydrology. Her work examines climate and land use change impacts in the terrestrial Environment by combining observed data with computer-based spatial models. She is currently investigating the impacts of climate change on ecosystem services and water resources in mountain regions, ncluding the Western US, the European Alps, the Pyrenees, and select locations in China. Her work also examines how forest management practices and land development or urbanization alters biogeochemical cycling and water availability for watersheds throughout the US.	Env	www.tagueteamlab.org
Tilman, David	Bren		 	Professor Tilman's research focuses on the causes, consequences, and conservation of Earth's biodiversity, and on now managed and natural ecosystems can sustainably meet numan needs for food, energy, and ecosystem services. His current research explores ways to use biodiversity as a tool for biofuel production and climate stabilization through carbon sequestration. His work on sustainable agriculture and renewable energy has critically examined the full Environmental, energetic and economic costs and benefits of grain crops, of current food-based biofuels, and of biofuels made from diverse mixtures of prairie grasses and other native blants growing on already-degraded lands.	Env	
Young, Oran	Bren		(6 5	Dr. Young specializes in institutional and international governance and Environmental institutions. His research encompasses basic research, focusing on collective choice and social institutions, and applied research dealing with issues pertaining to international Environmental governance and to the Arctic as an international region.	Env	<u>http://www.bren.ucsb.</u> edu/people/Faculty/oran_young.htm
Davis, Frank	Bren School			Frank Davis brings conservation science and geographical analysis to bear in land use planning and the conservation of wild species. Davis is a Distinguished Professor in the Bren School and directs the La Kretz Research Center at UCSB's Sedgwick Reserve. His research focuses on the landscape ecology of California plant communities, the design of protected-area networks, rangeland and farmland conservation, and the biological implications of regional climate change.	Enviro, Soc	http://www.biogeog.ucsb.edu/
Matthew Potoski	Bren School		E	Dr. Potoski's research focuses on management, voluntary Environmental programs, and public policy. He examines dynamics in Environmental politics on a regional and global evel.	Env	
Scott, Susannah	Chemical Engineering	Chemistry and Biochemistry	l F t t	As co-principal investigator of the Center for the Sustainable Jse of Renewable Feedstocks (CenSURF), Dr. Scott has participated in projects that aim to promote sustainable practices in the chemical sciences. She has researched ways to synthesize organic compounds like ethylene from fixed sources of carbon dioxide. These synthesized products can be used as alternatives to nonrenewable fossil fuels.	Env	http://www.chemengr.ucsb. edu/~ceweb/faculty/scott/

Gordon, Michael	Chemical Engineering		Professor Gordon's research focuses on the synthesis, characterization, engineering, and simulation of nanostructured materials and systems for photonics, energy, and chemical conversion applications. Our lab seeks to understand how size, morphology, organization, and surface structure affect the physicochemical properties and behavior of materials over different length, time, and energy scales. Application areas include enhancing efficiency of solid state lighting and display materials, CO2-free conversion of alkanes to hydrogen, materials processing with atmospheric pressure plasmas, and electrochemical manipulation of biomolecules.	Env	
McFarland, Eric	Chemical Engineering		Professor McFarland's research is focused on decarbonizing fossil resources and producing hydrogen as a clean burning fuel. By catalytic pyrolysis, oil and/or natural gas are made to release their hydrogens and leave behind solid carbon which can be stored indefinitely at low cost. Their work includes both lab-scale demonstrations and technoeconomic and sustainability analyses.	Env	https://chemengr.ucsb.edu/people/eric- mcfarland
Fredrickson, Glenn	Chemical Engineering,	Materials	Dr. Fredrickson conducts research that involves designing specialty block copolymers used to advance lithography strategies to shrink the dimensions of microelectronic devices. He works to make these devices faster and more energy- efficient. Other research in his group aims to develop improved copolymers and processes for polymer membranes that reduce the energy requirements of water purification.	Env	http://www.chemengr.ucsb. edu/people/faculty_d.php?id=25
Bazan, Guillermo	Chemistry	Biochemistry	As winner of the Grand Challenges Explorations grant, Dr. Bazan has investigated semiconducting molecules that penetrate organism membranes. This research is used to convert wastewater into energy, a piece of technology which can help alleviate world sanitation problems. He has also pioneered the use of molecular and semiconducting polymers for the fabrication of organic solar cells using Environmentally friendly methods.	Env	http://www.chem.ucsb.edu/~bazangroup/
Plaxco, Kevin W.	Chemistry	Biochemistry	Professor Plaxco's research primarily involves the study of biomolecular recognition. In recent years, researchers have developed folding-based sensors that are selective enough to be employed directly in blood, soil, cell lysates, and other grossly contaminated clinical and Environmental samples. Because of their sensitivity, substantial background suppression, and operational convenience, these folding-based biosensors appear potentially well-suited for electronic, on-chip applications in pathogen detection, proteomics, metabolomics, and drug discovery. By supporting the low-cost, continuous monitoring of Environmental pollutants, the technology could have significant implications in Environmental quality control.	inquiring with him	

Stucky, Galen	Chemistry	Biochemistry	Dr. Stucky's research interests include biosystem processes (e. g., blood clotting, cascade chemistry, and hemostasis) and the chemistry associated with the efficient use of energy resources. He has done research that furthers the development of energy storage systems, including the use of solar photocatalytic synthesis to make high energy density useful chemicals, and he has studied the conversion of methane to chemicals and fuels.	Env	https://labs.chem.ucsb. edu/stucky/galen/stuckygroup/
Buratto, Steven	Chemistry		Dr. Buratto has conducted research which looks at the polymer films present in LEDs by using near-field optical spectrscopy and near-field scanning microscopy. Looking at these films provides direct insight into the functioning/performance of these devices. The films affect such factors as carrier generation, transport, and device lifetime. He has additionally researched proton-exchange membrane fuel cells. These fuel cells provide efficient power with a low Environmental impact by generating electricity from chemical energy.	Env	http://www.chem.ucsb.edu/burattogroup/
Ford, Peter	Chemistry		Professor Ford's research has encompassed topics related to the photochemistry, catalytic reactions and mechanisms of transition metal complexes. These interests are currently reflected in studies related to (i) quantitative reactions of coordinated nitrogen oxides relevant to mammalian biology, (ii) the photochemical delivery of small molecule bioregulatory molecules to physiological targets and (iii) the conversion of renewable biomass feedstocks to chemicals and fuels using catalysts based on Earth-abundant elements.	Env	http://www.chem.ucsb.edu/fordgroup
Hayton, Trevor	Chemistry		Prof. Hayton works with his research group on projects involving the synthesis and characterization of new inorganic and organometallic molecules and nanomaterials. These new materials are needed for a diverse variety of applications, including catalysis, energy science, sustainability, and nuclear waste clean-up.	Env	http://www.chem.ucsb. edu/people/faculty/hayton/
Lipshutz, Bruce	Chemistry		The Lipshutz Research Group at UCSB is committed to developing new green technologies that will transform the way in which organic synthesis will be performed. Their patent- pending technologies provide alternatives to the use of toxic and flammable organic solvents that constitute the vast majority of the organic waste created by the chemical enterprise today. Through the use of newly engineered "designer" surfactants, which are Environmentally benign, many of the most commonly used organic reactions can now be run in water at room temperature.	Env	http://www.chem.ucsb. edu/people/faculty/lipshutz/index.shtml
Metiu, Horia	Chemistry		Dr. Metiu's research involves searching for new catalysts in order to convert CO2 and natural gas into useful chemicals. He is also involved with work that uses electrochemistry to find a good system for energy storage.	Env	http://www.chem.ucsb. edu/people/faculty/metiu/

Nguyen, Thuc- Quyen	Chemistry		Prof. Nguyen studies carbon-based materials for organic solar cell applications with an emphasis on nanoscale characterization, structure-property-performance relationships, and device physics. Organic solar cells have the potential to be a low cost, light-weight, and clean energy technology because they can be made from abundant materials and manufactured at room temperature from solution. Dr. Nguyen's lab aims to develop efficient semi-transparent organic solar cell devices for greenhouse and building installation.	Env	http://www.chem.ucsb. edu/people/faculty/nguyen/
Hawker, Craig	Chemistry	Biochemistry	As director of the California Nanosystems Institute (CNSI) at UCSB, Dr. Hawker has overseen research that unlocks the valuable polymers held in plastic food packages so as to use them to benefit society. His lab is working to transform polyactide plastics into specialty chemicals commonly used by industrial and food manufacturers. Dr. Hawker's team hopes to recycle plastics into a material equally as valuable and useful.	Env	http://hawkergroup.mrl.ucsb.edu/
	Chemistry and Biochemistry		Professor Seshadri researches functional inorganic materials with applications in energy conversion, energy storage, and information technology. A primary goal of the research is greater efficiency in energy conversion and storage and the recovery of waste heat. In and of themselves, these are expected to significantly minimize the impact of energy technologies on the Environment. In addition, his research addresses resource availability and life-cycle issues, in attempts to ensure that future energy technologies are not based on scarce or polluting elements. (Original: Ram Seshadri' s research encompasses a number of areas in the chemistry of inorganic materials, including new ways of preparing materials, seeking clues from nature on how to make new high- performance materials, magnetism in inorganic solids, chemica patterning of inorganic materials on large (micrometer) length scales, and using first principles electronic structure calculations to predict new material properties. In addition to his focus on magnetism, polar materials for heterogeneous catalysis and for applications in solid-state lighting (semiconductors, phosphors, etc.). He also extensively researches functional (particularly oxide) nanomaterials.)		http://www.chem.ucsb. edu/people/faculty/seshadri/index.shtml
Armbruster- Sandoval, Ralph	Chicano Studies		Dr. Armbruster-Sandoval specializes in urban and racial studies. He is the author of Globalization and Cross-Border Labor Solidarity in the Americas: The Anti-Sweatshop Movement and the Struggle for Social Justice and is currently working on a book titled Starving for Justice: Hunger Strikes, Spectacular Speech, and the Struggle for Dignity.	Env, Soc	

Cook, Elizabeth	Comparative Literature	English	Professor Cook's current research explores early modern writing about forests and trees, considering the shifting and sometimes colliding concepts of value and the history of Environmental ethics. In her current project, "Talking Trees in Long 18th-Century British Literature," she examines the simultaneous development of silviculture and silviphilia often radically opposed ways of valuing trees that are still with us today during the eighteenth century. Her work argues that this history of contradictory attitudes toward the Environment can help us understand how we respond to and address critical Environmental issues today.	Env, Soc	http://www.english.ucsb.edu/people/cook-e- heckendorn
Chong, Fred	Computer Science		As the Director of the Greenscale Center for Energy-Efficient Computing, Dr. Chong's research includes Life Cycle Analysis (LCA) of information technologies. This method of analysis can be applied to computing strategies in order to gauge their Environmental impact and energy efficiency. He also studies emerging technologies for energy-proportional computation. Energy-proportional computation saves computer server energy as well as increasing real-time use efficiency as computing workload varies.	Env	http://www.cs.ucsb.edu/~chong/
Gilbert, John	Computer Science		Professor Gilbert works with the Greenscale Center for Energy- Efficient Cooling to develop solutions to the rapidly increasing cost of powering data centers around the world. His research in high-performance computing and engineering is applied to cooling technologies for energy-efficient computational facilities by developing efficient numerical algorithms for computationally modeling airflows on supercomputers.		http://www.cs.ucsb.edu/~gilbert/
Krintz, Chandra	Computer Science		Professor Chandra Krintz's research interests focus on distributed computing advances that reduce energy consumption and ease development and deployment of software. Her team uses these technologies to facilitate sustainability science and engineering for the domain of agriculture. The project, called SmartFarm, couples sensor data with farm-local measurements and statistics, provides an interface into which custom analytics tools can be plugged and automatically deployed, and ensures that all data and analyses remain securely under the control of growers. SmartFarm enables growers to extract actionable insights from their data, to quantify the impact of their decisions and Environmental changes, and to identify opportunities for increasing farming sustainability and productivity. Professor Krintz has also extended this work for use in conservation science and ecology. Using non-invasive cameras, Krintz and her team, in collaboration with researchers from multiple disciplines, develop computer systems that automatically collect and extract information about wildlife and ecosystem health from videos and images for use in sustainability studies.	Env, Soc	http://www.cs.ucsb.edu/~ckrintz/

Sherwood, Timothy	Computer Science	Dr. Sherwood's research is in the area of computer architecture. He has worked to develop techniques that provide a powerful new way to inspect and control the digital world and shed light on energy efficiency. (From IEE website: Timothy Sherwood's research is in the area of computer architecture, specifically in the development of novel high throughput hardware and software methods by which systems can be monitored and analyzed. Such techniques provide a powerful new way to inspect and control the digital world: they shed light on energy efficiency and performance anomalies, uncover software bugs, and help secure critical systems against attack.)	Env	http://www.cs.ucsb.edu/~sherwood/
Wolski, Richard	Computer Science	Dr. Wolski's research interests include cloud computing and large-scale high-performance distributed systems. His research includes the study of new power-aware resource management algorithms for data centers using private cloud technologies. He also makes his work available as open source through the Eucalyptus private cloud project. Eucalyptus has been used worldwide to optimize data centers through the adoption of a private cloud based IT.	Env	http://www.youtube.com/watch? y=q3JXRiHlm9g
Zheng, Haito	Computer Science	Dr. Zheng's research focuses on harnessing the fundamental concepts of the human cognitive cycle and applying them to device networks. This allows the networks to manage themselves in a self-aware and adaptive manner.	Env	http://industry.ucsb.edu/faculty/profile/135
Burbank, Doug	Earth Science	Professor Burbank studies tectonic geomorphology and surface processes. Working with the Earth Research Institute, Burbank' s research areas include earth evolution, earth systems science, and natural hazards. His current research projects include analyzing the climate and tectonic controls on growth of the Puna Plateau in the Andes of NW Argentina, changes in Andean erosion rates over the past 5 million years, and the interactions of tectonics, erosion, and climate in shaping the Himalaya, Pamir, and Tien Shan mountains in Asia.		http://www.geol.ucsb.edu/faculty/burbank
Eilon, Zachary	Earth Science	Dr. Eilon's research covers several aspects of structural seismology, with a focus on answering fundamental questions about tectonic processes using seismic data coupled with novel analytical tools. He has worked on research projects in Papua New Guinea, Iceland, Cascadia, Ethiopia, and the depths of the Pacific Ocean. His primary areas of expertise are seismic tomography, inverse theory, anisotropy, and attenuation.		
Keller, Edward	Earth Science	Dr. Keller's research is divided into the study of stream processes and tectonic activities. More specifically, he focuses on river restoration management, Environmental effects of channelization, and the impact of large debris on river systems. Dr. Keller recently started a long-term research project that looks at the hydrology and ecology of small coastal lagoons in southern California.	Env	http://www.geol.ucsb.edu/faculty/keller/

Lea, David	Earth Science	Doctor Lea's research interests focus on global climate change, marine geochemistry and carbon cycle. He focuses on the study of past climate change in order to establish a context for future global warming. As part of an international working group called SENSETROP, Dr. Lea has compiled, harmonized, and synthesized proxy sea surface temperature data from the tropics during the Ice Ages to assess climate sensitivity. He is also examining how salinity and other factors affect the accuracy of paleotemperature proxies. Dr. Lea worked at the U. S. State Department in 2010-2011 as climate science advisor to the team negotiating what would eventually become the Paris Agreement (2015).	Env	http://www.geol.ucsb.edu/people/david-lea
Lisiecki, Lorraine	Earth Science	Doctor Lisiecki's research focuses on computational approaches to analyzing paleoclimate records. Through the analysis of climate system interactions such as glacial cycles, Professor Lisiecki's work contributes to models that further understanding of how man-made changes may affect future climate.	Env	http://lorraine-lisiecki.com/
Luyendyk, Bruce	Earth Science	Dr. Luyendyk has studied the marine seep systems offshore of the UCSB campus. Other research interests include Antarctic climate evolution in which he participated in projects that aim to capture a record of some of the earth's global climate transitions.	Env	http://www.geol.ucsb.edu/faculty/luyendyk
Simms, Alex	Earth Science	Professor Simms' research focuses primarily on coastal systems. His studies use a wide variety of tools to study past depositional systems, including coring, high-resolution seismic data, GPR, and outcrop analysis to understand how past depositional systems have responded to sea-level, climate, and tectonic changes. Modeling and investigating depositional systems allow us to further understand the Environmental impact of climate change and tectonic forces.	Env	http://www.geol.ucsb.edu/faculty/simms/
Valentine, Dave	Earth Science	Professor Valentine's current research projects include the study of the microbial weathering of hydrocarbon compounds released into marine Environments as well as methods of Environmental remediation and biofuel production. His research aims to achieve a better understanding of the distribution, evolution and activity of microbial communities and their interaction with chemicals present in their Environment.	Env	http://www.coastalresearchcenter.ucsb. edu/cmi/Valentine.html
Lewallen, Ann Elise	East Asian Languages and Cultural Studies	Ann-Elise Lewallen's research and teaching engages with critical indigenous studies, gender studies, multiculturalism, and Environmental justice in the context of contemporary Japan and in Japan's transnational relations. As a cultural anthropologist, she is also concerned with research ethics and issues of knowledge construction in relation to indigenous and research host communities. Her current book project examines models of sustainable development and Environmental justice within transnational citizen relations between Japan and India.	Env	<u>http://www.eastasian.ucsb.</u> edu/home/faculty/ann-elise-lewallen/

Steavu, Dominic	East Asian Languages and Cultural Studies,	Religious Studies	Dr. Steavu's research focuses on Daoism and Buddhism in the medieval world. His work includes investigating how approaches to nature and the ethics of conservancy in classical East Asian traditions can help us elaborate contemporary strategies for sustainability.	Env	
D'Antonio, Carla	Ecology, Evolution & Marine Biology		Dr. D'Antonio's research is primarily focused on factors driving changes in ecosystem structure and functioning. She evaluates how species, communities, and ecosystem processes are responding to human-altered fire regimes, species invasions, nitrogen deposition, and climatic fluctuations, including drought. Through her research, she seeks to provide a scientific basis for the management and restoration of ecosystems and for predicting how species composition will change under current and future stressors.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/dantonio/
Sweet, Samuel	Ecology, Evolution & Marine Biology		Dr. Sweet's current research is based on conservation biology, distributional ecology, and systematics of western North American and Australasian amphibians and reptiles; the ecology and systematics of monitor lizards; functional and evolutionary morphology; and ethnozoology.He is Curator of Herpetology at the Cheadle Center for Biodiversity and Ecologhical Restoration.	Enviro, Soc	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/sweet/
Warner, Robert	Ecology, Evolution & Marine Biology		Dr. Warner's research includes behavioral and evolutionary ecology, as well as population biology. Most of his work focuses on coral reef fishes and the historical ecology of coastal marine populations. His current research is on conservation biology and the science of marine reserves.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/warner/index.html
McClintock, Will	Ecology, Evolution & Marine Biology		Dr. McClintock leads a group of software developers and planners to develop and deploy applications for sustainable ocean management. Their flagship application, called SeaSketch (www.seasketch) is used globally for collaborative, science-based marine spatial planning. In 2020, Dr. McClintock received a 5-year grant to deploy SeaSketch as a free and open source software service for planning the sustainable use and protection of ocean resources as part of the Blue Prosperity Coalition. The McClintock lab was also involved from 2004-2011 in the development of MarineMap, a web-based application used by stakeholders in the Marine Life Protection Act Initiative (MLPAI) for the design of California's network of marine protected areas. Their team also develops mobile and web applications for fisheries management in collaboration with The Nature Conservancy of California. Will is a Senior Fellow at the National Center for Ecological Analysis and Synthesis and a member of the National Ocean Protection Coalition Scientific Advisory Team.		

Hofmann, Gretchen	Ecology, Evolution & Marine Biology		Professor Gretchen Hofmann is a marine physiologist who studies the response of marine organisms to global change. The Hofmann lab uses integrated approaches to ask whether and how marine organisms can adapt to future ocean conditions. Dr. Hofmann and her students work in marine systems ranging from the Antarctic to California kelp forests. Dr. Hofmann is also a member of the Santa Barbara Coastal LTER, a research group that studies long-term ecology in kelp ecosystems.	Env	http://www.lifesci.ucsb. edu/eemb/faculty/hofmann/
Schimel, Josh	Ecology, Evolution, & Marine Biology	Environmental Studies	Dr. Schimel's research focuses on ecosystem and microbial ecology and their feedback on global climate. Specifically, his research looks at the role of soil microbes in controlling ecosystem scale processes through the linkages between plant and soil processes. Schimel's research is particularly important when analyzing the effects of increased temperature and altered rainfall patterns and CO2 emissions on global climate. Major foci of Schimel's research are on Arctic ecosystems, which store huge pools of organic carbon and are warming rapidly, and California grasslands and scrublands which experience regular droughts.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/schimel/index.html
Jacobs, Robert	Ecology, Evolution, & Marine Biology	MCBD	Dr. Jacobs' research is oriented toward the study of cellular and molecular mechanisms of drug action. More specifically, one of his projects examines the harvest of marine organisms that are useful for medical and industrial purposes. This project looks at several oil and gas platforms in the Santa Barbara Channel to assess the issue of over-harvesting natural products. The research may reduce or eliminate the ecological impacts of harvesting marine organisms.	Env	https://www.mcdb.ucsb. edu/people/faculty/jacobs
Brzezinski, Mark	Ecology, Evolution, & Marine Biology		Dr. Brzezinski's research focuses on marine phytoplankton, oceanography, and climate change science. He is currently working on projects related to effects of high CO2 conditions on organic matter, the effect of wave energy on kelp forest ecosystems, and the maintenance of species diversity.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/brzezinski/
Carlson, Craig	Ecology, Evolution, & Marine Biology		Dr. Carlson's research focuses on microbial oceanography. More specifically, his research focuses on the role marine microbes play in the cycling of elements through oceanic dissolved organic matter. The applications of this research will help to understand how microbial processes affect the production and consumption of organic matter within the oceanic carbon cycle.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/carlson/
Collins, Peter	Ecology, Evolution, & Marine Biology		Professor Collins' research emphasis is the study of mechanisms regulating the reproduction and development in vertebrate animal models, comparative reproductive endocrinology and fertility, reproductive physiology in teleosts, endocrine regulation of viviparity, evaluation of candidate species for mariculture, marine teleost larval rearing technology, and the development of novel microparticulate diets for marine larvae.	Enviro	

Cooper, Scott	Ecology, Evolution, & Marine Biology	Dr. Cooper's research has been centered on the factors that determine the abundances and distributions of aquatic organisms. Past research foci have included the impacts of acid deposition, livestock grazing, pollution, climate change, exotic species, and native species loss on freshwater ecosystems. Currently, much of his work revolves around the effects of land use changes, fire, and forestry practices on streams in California, and on the ecology and conservation of steelhead populations in southern California.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/cooper/
Holbrook, Sally	Ecology, Evolution, & Marine Biology	Dr. Holbrook's research focuses on population dynamics, marine species interactions, and impacts on coral reef ecology. She is currently doing research on temporal patterns in reef communities by analyzing long-term trends in population abundance and species richness. This research is especially vital when looking at the adverse effects of climate change on marine ecosystems.	Env	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/holbrook/
Homyak, Peter	Ecology, Evolution, & Marine Biology	Dr. Homyak's research focuses on how humans have altered biogeochemical cycles and its effects on the Environment. More specifically, his research examines the production of gaseous N emissions from soils and how they are influenced by dry-season processes. Because N emissions influence the chemistry of the lower atmosphere, he is interested in developing an understanding of important links between soil and atmospheric processes.	Env	https://labs.eemb.ucsb.edu/schimel/josh/Pete. html
Lafferty, Kevin	Ecology, Evolution, & Marine Biology	Dr. Lafferty's research mainly focuses on the ecology of parasites; however, his work also deals with conservation biology issues. Such research includes ways to further the protection and recovery of the endangered tidewater goby, black abalone, southern sea otter, and western snowy plover. In addition, Dr. Lafferty studies the effect of fishing on marine ecosystems (local estuaries, beaches, and kelp forests). In addition to being an adjunct faculty member at UCSB, he is also a Marine Ecologist for the USGS at the Channel Islands Field Station.	Env	http://homes.msi.ucsb. edu/~lafferty/Kevin_Lafferty/About%20Me. html
MacIntyre, Sally	Ecology, Evolution, & Marine Biology	Dr. Macintyre's research investigates physical processes in lakes and the coastal zone and their biogeochemical and ecological consequences. Studies are ongoing in Arctic and Subarctic lakes, Mono Lake, CA, tropical lakes in East Africa and the Amazon Basin, and the waters of coastal California.	Env	http://www.crseo.ucsb.edu/~sally/
Mazer, Susan	Ecology, Evolution, & Marine Biology	Dr. Mazer's research involves detecting the mechanisms by which plants adapt to the ecological risks and opportunities that they encounter and exploring the genetic constraints that may limit the rate or degree of adaptation. Her central research goals are to determine genetic and Environmental sources of variation in traits that affect individual fitness. Since 2011, as field director of the California Phenology Project (www.usanpn. org/cpp), she has designed and implemented phenological monitoring programs throughout the state, engaging students, national park staff, UC Natural Reserves, and citizen scientists in the study of how climate change is affecting the seasonal cycles of 30 California native plant species.	Env	http://www.eemb.ucsb. edu/people/faculty/mazer

Nisbet, Roger	Ecology, Evolution, & Marine Biology	Much of his work is based on I theory to describe the rates at assimilate and utilize energy. F fundamental theory and applie	which individual organisms lis research group develops new s it to Environmental problems. logy, coral biology, zooplankton	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/nisbet/index.html
Schmitt, Russell	Ecology, Evolution, & Marine Biology	research in particular attempts	cology, consumer-resource tes, and reef fishes. His current to understand the processes and species diversity. In addition, n of ecological principles to the	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/schmitt/index.html
Kuris, Armand	Ecology, Evolution, & Marine Biology	substantially to the energetics substantially alters trophic rela food webs. His research looks	imines how disease contributes of the ecosystem and tionships and the structure of at the biological control of exotic ntrol of human tropical diseases. es is useful for assessing	https://www.msi.ucsb. edu/people/faculty/armand-kuris
Melack, John	Ecology, Evolution, & Marine Biology/ Bren	and streams, as well as the hy aspects of catchments. His res measurements, modeling, exp He recently published a book of Sierra Nevada which synthesiz including studies of atmospher consequences, variations in sr watershed and lake processes	search combines state-of-the-art eriments, and remote sensing. on lakes and watersheds in the zes 35 years of research ic deposition and its ecological now and their relation to a, with application to sustainable purces. HIs on-going studies of al reservoirs and wetlands are ng of climate warming and	http://www.lifesci.ucsb.edu/Ecology, Evolution, & Marine Biology/faculty/melack/index.html
Bergstrom, Ted	Economics	He has studied and continues	des work in resource economics. Econ, Env to study such areas as using the externalities of pollution, and the e market.	http://www.econ.ucsb.edu/~tedb/
Deschenes, Olivier	Economics	Dr. Deschênes' research focus impacts of global climate chan and the relationship between e markets. More specifically, his impacts of climate change in Ir prices on the labor market. He role of the diffusion of resident heat-related mortality in the Ur	ge, adaptation to climate change, nergy markets and labor current projects include the ndia and the effect of electricity also is currently studying the ial air conditioning in reducing	http://www.econ.ucsb.edu/~olivier/

Oliva, Paulina	Economics	Dr. Oliva's research blends Environmental economics with labor and development economics. Her research has focused on the effects of air pollution on infant mortality in Mexico City, as well as the effects of pollution on labor supply. She is currently researching Environmental regulations with regards to automobile emissions in Mexico City.	econ, Env, soc	http://www.econ.ucsb.edu/~oliva/
Steigerwald, Douglas	Economics	Dr. Steigerwald's research focuses on frontier econometric methods at the intersection of economics, Environmental science, computer science, geography, and statistics. Currently, he is researching regional price behavior in Mexican maize markets. This research examines the resiliency of markets in the face of climate change and increasing market integration and the resultant implication for food security, livelihood change, and political security.	Econ, Enviro	http://www.econ.ucsb.edu/~doug/
Bazerman, Charles	Education	Dr. Bazerman is interested in the practice and teaching of writing, understood in a socio-historic context. Using socially based theories of genre, activity system, interaction, intertextuality, and cognitive development, he investigates the history of scientific writing, other forms of writing used in advancing technological projects, and the relation of writing to the development of disciplines of knowledge. Some of his studies involve the history and organization of Environmental knowledge and communication. Most recently he has worked on how climate change knowledge enters into or is restricted within political representations and the deliberations of Congressional hearings.	Env,Soc	http://education.ucsb.edu/bazerman/
Mary E. Brenner	Education	Dr. Brenner is currently running an afterschool program at the Goleta Boys and Girls Club in collaboration with Dr. Richard Duran. The program teaches Civic Engagement in Environmental issues to children in grades K-8. She was previously involved in running and researching a summer educational program for local students that taught Environmental stewardship.	Envir, Soc	
Bowers, John	Electrical & Computer Engineering	Dr. Bowers' research team created an LED lamp that is solar- powered, cost-effective, and highly efficient. The circuit of the lamp is designed so as to provide triple the output of a normal AA battery. This design was transferred to a nonprofit, Unite to Light. Manufactured lamps were shipped to Ghana in 2010 at a cost of \$7 per lamp, roughly the amount a family in Ghana would spend on kerosene for 2 months. Unite to Light has sent 120,000 such lights to people in need of a sustainable light source. The research group has since delivered thousands of solar powered cell phone charger lights. Dr. Bowers' research also includes work on more efficient silicon photonic transceivers, thermoelectric materials for waste heat recovery and on concentrated photovoltaic devices for more efficient solar power.	Envi, soc	http://optoelectronics.ece.ucsb. edu/profile/john-bowers

Brewer, Forrest	Electrical & Computer Engineering	Dr. Brewer is currently working on low-power signal processing systems based on 1-bit serial data-flow. These systems allow the construction of micro-power digital signal processing systems for use in e.g. hearing aids or MEMs devices. Ostensibly, they can reduce the power needed used in signal processing by 80-90% and the total power by 35-50% for	Env	https://www.ece.ucsb.edu/spotlights/lab- focus-brewer-sys-synthesis-lab
		audio-rate systems. This could lead to substantial reduction of the use of primary batteries in such applications. Dr. Brewer is also building stable IOT clocks and timing circuits for applications like LiDAR.		
Cheng, Tim	Electrical & Computer Engineering	Dr. Cheng manages two research labs: SoC Design and Test Lab and Learning-based Multimedia Lab. The latter laboratory is currently doing research which focuses on Mobile Computer Vision. Computer vision looks at how real word data, in particular images, are processed into symbols/numbers and understood by computers. The research focuses on developing designs that improve the energy efficiency of tasks involved in computer vision.	Env	http://engineering.ucsb.edu/faculty/profile/94
Coldren, Larry	Electrical & Computer Engineering	Dr. Coldren has worked to develop new photonic integrated circuit (PIC), as well as vertical-cavity surface-emitting laser (VCSEL) technology. This technology has many applications. It can be used in laser printers and biological tissue analysis, and it is widely used in fiber optics. Fiber optics is a field that focuses on transmitting information by sending light pulses through an optical fiber. As a member of the Electronics and Photonics Solutions Group at the Institute for Energy Efficiency, Dr. Coldren has worked to make these devices high-speed and efficient.	Env	http://www.ece.ucsb.edu/Faculty/Coldren/
Yue, Patrick	Electrical & Computer Engineering	Current and past projects: (1) Cell-Based RF Design in Scaled CMOS Technologies (2) Very Low Power, Adaptive Equalizer for High-Speed I/O's (3) On-wafer Wireless Testing (4) Low-power Wireless Bio-sensors (5) Fast-settling PLL's. On-wafer wireless testing with on-chip antenna. Ultra-low-power adaptive passive equalizer for >10 Gbps. Sub-circuit standard cell library for predictive analog design. Wireless power delivery interface circuits for bio-implants.	Env	http://engineering.ucsb.edu/faculty/profile/174
Banerjee, Kaustav	Electrical and Computer Engineering	Dr. Banerjee is currently researching the physics, technology, and applications of low-dimensional nanomaterials (including graphene and other 2D materials) for next-generation green electronics, photonics, and bioelectronics. These nanomaterials can be used to design low-power, low-loss, and ultra-energy efficient active and passive nanoelectronic devices. His group is innovating tunneling transistors, ultra-sensitive biosensors, interconnects and on-chip inductors uniquely enabled by 2D layered materials that can provide a new platform for next- generation energy-efficient computing, sensing, communication, and energy storage, and thereby accelerate emerging application paradigms such as the Internet of Things that promises unprecedented connectivity of people and information, and also lead to significantly lower carbon emissions.	Enviro	http://nrl.ece.ucsb.edu/

Blumenthal, Daniel	Electrical and Computer Engineering	Dr. Blumenthal heads the Optical Communication and Photonic Integration (OCPI) Group (ocpi.ece.ucsb.edu) and is Director of the Terabit Optical Ethernet Center (TOEC). He is a co-founder of Packet Photonics, Inc and Calient Networks and holds 22 US patents. He has published over 410 papers in the areas of optical communications and networks, optical packet switching, ultra-low Loss waveguide (ULLW) platform and devices, low- noise and linewidth lasers, integrated optical gyros, ultrafast optical signal processing, photonic integration in InP, SiPh/InP and and silicon photonic and nano-photonic device technologies and is co-author of Tunable Laser Diodes and Related Optical Sources (New York: IEEE–Wiley, 2005). Dr. Blumenthal is a Fellow of the National Academy of Inventors (NAI), Fellow of the IEEE, and Fellow of the Optical Society of America (OSA). He has served on the Board of Directors for National LambdaRail (NLR) and as an elected member of the Internet2 Architecture Advisory Council.	Env	http://engineering.ucsb.edu/faculty/profile/138
Madhow, Upamanyu	Electrical and Computer Engineering	Dr. Madhow's ongoing research investigates the architecture of next generation wireless communication and sensor networks, with the goal of obtaining order of magnitude gains in energy efficiency.	Env	http://www.ece.ucsb.edu/Faculty/Madhow/
Rodoplu, Volkan	Electrical and Computer Engineering	Dr. Rodoplu's research focuses on wireless communications and networking. As a member of the Greenscale Center for Energy-Efficient Computing at the Institute for Energy Efficiency, one of the goals of his research is to curb the energy consumption of wireless networks through the development of energy-efficient protocols.		http://www.ece.ucsb.edu/rodoplu/
Rodwell, Mark	Electrical and Computer Engineering	Dr. Rodwell's research interests include extending the operations of electronics to the highest feasible frequencies. He also looks at communication systems and energy efficient semiconductor devices. His research group works to extend the operation of electronics to the highest feasible frequencies. Their research thus includes semiconductor devices (diodes and transistors), semiconductor fabrication process, circuit design, interconnects, instruments, and communications systems. Mark Rodwell's research focuses on extending the operation of electronics to the highest feasible frequencies. His research interests includes energy efficient semiconductor devices (diodes, transistors, photodiodes), semiconductor fabrication process, circuit design, interconnects, instruments, and communications systems. Particular interests include THz InP (indium phosphide) bipolar transistors, nm III-V MOSFETs (metal-oxide-semiconductor field-effect transistors) for both VLSI (very large scale integration) and THz (terahertz) applications, and IC (integrated circuit) design above 50 GHz (gigahertz) in both III-V and Silicon VLSI technologies.	Env	http://www.ece.ucsb.edu/Faculty/rodwell/

Schuller, Jon	Electrical and Computer Engineering		The Schuller Lab conducts research that physical phenomena that occur when lig objects of subwavelength dimensions. T is to create smaller, faster, and more eff technologies and ultimately lead to a fut properties are controlled and engineere molecular level. In a recent publication is researchers in the Schuller Lab discuss their research into morphology depended film organic solar cells. Their research in in the future in low-cost lightning and er devices.	ht interacts with the goal of the research cient photonics ure where optical d at the atomic or n Optics Press, the ed the application of nt light trapping in thin- n this area can be used	
Theogarajan, Luke	Electrical and Computer Engineering		Dr. Theogarajan is doing research about consumption of moving data in data cer electronics interconnect. He also does we neural system and particularly to neural Neural prosthetic devices offer a way to due to neural damage. He is currently in potassium ions rather than electrons to neural tissue as part of this new technol already proved to be safer and require to than the approach currently used.	ters and other vork related to the prosthetic devices. restore functions lost vestigating the use of communicate with ogy. This method has	http://engineering.ucsb.edu/faculty/profile/545
Mishra, Umesh	Electrical and Computing Engineering		Dr. Mishra researches electronics and p led a project to develop a new semicono enables highly efficient power conversio drives, electric vehicles, and power grid	luctor technology that n at low cost in motor	http://my.ece.ucsb.edu/mishra/biography.htm
Chabinyc, Michael	Engineering	Materials	Dr. Chabinyc studies materials for energ his specific focuses include organic sen inorganic materials for energy conversio	iconductors and hybrid	http://www.materials.ucsb. edu/recruitment/Faculty/chabinyc/chabinyc. php
Bamieh, Bassam	Engineering	Mechanical Engineering	Dr. Bamieh's research is in the area of of which underlies most automation techno machines and processes smart and ada working on the design of smart thermoa conversion devices in which mechanica powerful pressure waves rather than pist devices convert heat to acoustic power efficiencies and almost no moving parts particularly suited to small-scale solar th applications.	blogies that make ptive. He is currently coustic energy work is done by tons or turbines. These with relatively high , and they are	http://engineering.ucsb.edu/~bamieh/
O'Malley, Michelle	Engineering		Dr. O'Malley directs a group that is work renewable chemicals and biofuels from and plastic wastes.		

Hiltner, Ken	English		Ken Hiltner is a professor of English literature and	Env	http://www.english.ucsb.edu/people-detail.
			Environmental Studies. He explores the history of literature and the relationship between literary history and our Earth in order to better understand how we arrived at our current Environmental beliefs. Hiltner is active in examining Environmental issues from various perspectives. He hosts a weekly podcast, the Environmental Humanities Podcast, where he conducts interviews with scholars and artists to discuss how Environmental issues are taken up across the humanities. He also has given various talks, such as "Nature: How Much Does it Matter," "The Role of Our Past In Our Environmental Future," and "Environmental Criticism: What is at Stake?"		asp?PersonID=266
Shewry, Teresa	English		Professor Shewry's research interests include pacific rim cultures, Environmental studies, and oceans and water. She is the director of Literature and the Environment at UCSB. Her recent publications include "Possible Ecologies: Literature, Nature, and Hope in the Pacific" and "Environmental Criticism for the Twenty-First Century." Her book, Hope at Sea: Possible Ecologies in Oceanic Literature (University of Minnesota Press, 2015), explores hope in the context of Environmental change in the Pacific.	Env	<u>http://www.english.ucsb.edu/people/shewry-</u> <u>teresa</u>
Heilmayr, Robert	Environmental Studies	Bren	Doctor Heilmayr's research combines approaches from economics, geography and ecology to explore the way society uses and governs natural resources. His focuses include reduction in deforestation through nonstate governance, impacts of plantation forestry, and land use change in Chile. He uses a combination of theoretical microeconomic models and remote sensing to explore the impact of plantation forest expansion on natural ecosystems. Heilmayr's current research focus is on the impact of nonstate policies to end deforestation.	Env	
Wilkinson, Robert	Environmental Studies	Bren	Dr. Wilkinson's research is focused on water and energy policy with regards to climate change. He has analyzed US freshwater management policies, California water supply management, and climate change adaptation strategies.	Env	http://www.esm.ucsb. edu/people/Faculty/robert_wilkinson.htm
Clark, Jordan	Environmental Studies	Earth Science	Professor Clark's research focuses on topics in the field of aqueous geochemistry. By analyzing anthropogenic and natural tracers in bodies of water, Professor Clark is able to study how flow patterns affect the quality of water, the transfer of water, and gas exchange across the air-water interface. His current research projects include the chemical evolution of shallow groundwater, groundwater flow near managed aquifer recharge sites, stream/ground water interactions, and groundwater flow in the upper ocean crust on the flank of the Juan de Fuca Ridge. In the past, he has also examined the fate of methane near shallow hydrocarbon seeps.	Env	http://www.geol.ucsb.edu/faculty/jfclark/

Chadwick, Oliver	Environmental Studies	Geography	Dr. Chadwick's research relates soils to ecology and earth system science. He has studied how humans prior to the Industrial Revolution and development of industrial nitrogen fixation managed their natural ecosystems and agricultural systems sustainably. He also looks at how humans impact the Environment through extracting nutrients from it for agriculture and industry and then, in some cases, concentrating them or spreading them to return them to the natural Environment.	Env	http://geog.ucsb.edu/pedology/
Graves, Greg	Environmental Studies	History	Dr. Graves' research interests include public history, California history, Environmental history, and U.S. history. He specializes in federal water resources development and resource allocation. He also conducts Environmental and historical investigations of industrial sites in the partnership Graves & Neushul Historical Consultants. His publications include Pursuing Excellence in Water Planning and Policy Analysis: A History of the U.S. Army Corps of Engineers Institute for Water Resources; From These Beginnings: A Biographical Approach to American History; and "The Rhetoric of Opposition: Anti- conservation and the Early Forest Reserves," in Journal of the West.	Env, Soc, Econ	http://www.history.ucsb.edu/people/person. php?account_id=88
Barandiaran, Javiera	Environmental Studies	Latin American and Iberian Studies	Dr. Barandiarán's research is focused on Environmental politics. Dr. Barandiarán's book, Science and Environment in Chile: The Politics of Expert Advice in a Neoliberal Democracy (MIT Press, 2018) examines the consequences for Environmental governance when the state lacks the capacity to produce an authoritative body of knowledge. Focusing on the experience of Chile after it transitioned from dictatorship to democracy, she examines a series of Environmental conflicts in which the state tried to act as a "neutral broker" rather than the protector of the common good. She argues that this shift in the role of the state—occurring in other countries as well—is driven in part by the political ideology of neoliberalism, which favors market mechanisms and private initiatives over the actions of state agencies. Chile has not invested in Environmental science labs, state agencies with in-house capacities, or an ancillary network of trusted scientific advisers—despite the growing complexity of Environmental problems and increasing popular demand for more active Environmental stewardship. Unlike a high modernist "empire" state with the scientific and technical capacity to undertake large-scale projects, Chile's model has been that of an "umpire" state that purchases scientific advice from markets. After describing the evolution of Chilean regulatory and scientific institutions during the transition, Barandiarán describes four Environmental crises that shook citizens' trust in government: the near-collapse of the farmed salmon industry when an epidemic killed millions of fish; pollution from a paper and pulp mill that killed off or forced out thousands of black- neck swans; a gold mine that threatened three glaciers; and five controversial mega-dams in Patagonia."	Env, Soc, Econ	http://www.global.ucsb. edu/people/academic/javiera-barandiar%C3% A1n

Alagona, Peter	Environmental Studies	Peter Alagona received his PhD from UCLA, and completed postdoctoral fellowships at Harvard and Stanford. An Environmental historian by training, his work explores what happens when humans share their space and resources (habitats) with other species: how we interact with non-human creatures, how we make sense of these interactions, why we fight so much about them, what we can learn from them, and how we might use these lessons to foster a more just, humane, and sustainable society.	Enviro, Soc	http://www.history.ucsb.edu/people/person. php?account_id=284
Cleveland, David	Environmental Studies	Dr. Cleveland's research has been on small-scale, sustainable agrifood systems, including human population dynamics, plant breeding and conservation of crop genetic diversity, local and scientific knowledge, and collaboration between farmers and scientists. He has worked with small-scale farmers in West Africa, Mexico, Pakistan, California, and Indian country (Hopi and Zuni). He is currently researching the potential for food system localization and diet change to improve health, reduce greenhouse gas emissions, and promote food and climate justice, in Santa Barbara County, in California, and globally. His latest book is Balancing on a Planet: The future of food and agriculture (2014, U of California).	Env, econ, soc	http://es.ucsb.edu/faculty/cleveland/
Manalis, Mel∨yn	Environmental Studies	Professor Manalis's holds a PhD in Physics. His research interests surround the development of quantifiable sustainability measures, as well as integrated energy planning and industrial ecology. He is also a research professor in the Environmental Studies Program and associated with the Institute for Energy Efficiency. He continues to carry on research that integrates thermodynamic applications to coupling of human and natural systems, with the emphasis on information feedbacks between these systems. Priorities in this research are economic considerations within and the ethical commons alignment of human and natural systems.	Env, econ	http://www.es.ucsb. edu/people/academic/melvyn-s-manalis
Pellow, David	Environmental Studies	Dr. Pellow's research interests lie in the links between Environmental and social justice, and has included several studies focused on specific communities facing Environmental racism and Environmental injustice. He recently co-edited a book that brought together five dozen scientists, social scientists, humanities scholars, and activists to present the histories of 60 key terms that have been used in the field of Environmental studies. He is also working on a series of projects focused on expanding the field of Environmental justice studies to engage more seriously fields like Critical Race Theory, Feminist Theory and Gender/Sexuality Studies, Anarchist Theory, and Critical Animal Studies. Additionally, Pellow is researching the links among the U.S. prison system, ecosystem harm, impacts on communities of color and working class communities, and their implications for social and Environmental justice movements.	Env	

Pulver, Simone	Environmental Studies	Dr. Pulver's research centers on the intersection of economic action and Environmental harm and seeks to integrate theoretical frameworks relating to global governance, organizational theory and Environmental sociology. She has led NSF-funded research projects investigating oil industry responses to climate change, climate politics in Mexico, low carbon investments by firms in Brazil and India, and toxic pollution in American manufacturing. Dr. Pulver also directs the Environmental Leadership Incubator.	Soc, Econ	http://www.science.ucsb. edu/faculty/profile/989
J - / -	Environmental Studies	Professor Pye is an adjunct faculty member of UCSB's Environmental Studies Department and teaches ecopsychology and Environmental ethics. Dr. Pye's contribution to the developing field of ecopsychology brings together science and humanities through the examination of ecological and psychological processes in order to transform unconscious narratives that drive destructive practices and policies, ecologic and civic illiteracy, and unethical decisions affecting an interdependent world. Dr. Pye is the president of Viridis Graduate Institute offering programs that focus on ecological psychology and Environmental humanities.	Env, soc	http://www.es.ucsb.edu/people/lecturer/lori- pye
Selmann, Katja	Environmental Studies	Dr. Seltmann, the Director of the Cheadle Center for Biodiversity and Ecological Restoration, focuses on understanding biodiversity. She uses natural history collection data and field work to understand how our native insects, including pollinators, are supported by using native plants in our low-water restored areas.	Env	
	Environmental Studies	r. Stratton has been the Director of Ecosystem Management for UCSB's Cheadle Center for Biodiversity and Ecological Restoration (CCBER) since 2005. As the manager of 340 acres of open space on campus, including the 136 acre North Campus Open Space Restoration Project, she has been active in pursuing opportunities to help campus adapt to climate change and sea level rise while also working to improve water quality and provide habitat through bioswales and treatment wetlands. In conjunction with students, Dr. Stratton and CCBER conduct research on water quality, hydrology, endangered plants, and biological diversity which provide evidence for the benefits of these features. Interpretive signs throughout campus, several courses (Restoration Field Skills and Conservation and Restoration Ecology Seminar Series) and web site material make their work available to a broader audience.	Env	

Jenkins, Chris	FAMST		Chris Jenkins is the Head of Production in the Department of Film and Media Studies and an independent filmmaker who specializes in international documentary productions about Environmental, humanitarian, or cultural topics. He has been behind the lens of several feature length documentaries including Sierra Leone's Refugee All Stars, The Matador and Riverwebs. Riverwebsexplores the work of stream ecologists who seek to understand the complex connections between streams and their riparian ecosystems. His most recent short film, called Lost Crops, follows a doctor and a botanist/humanitarian on a worldwide search for sustainable superfoods. Jenkins has also worked as the Director of Media for the Tropical Forest Group and the ParisAgreement.org, a website/media platform which provided up-to-the-minute information during the climate negotiations at the Paris Agreement (COP21).	Env	
Rappaport, Erika	Feminist Studies	History	Dr. Rappaport's research considers the history of mass consumer society, with a particular focus on how large-scale businesses accrue cultural and political power. While her work inititially focused on mass-retailing and the urban Environment, her current project, A Thirst for Empire: How Tea Shaped the Modern World (Princeton University Press, 2017), examines the relationship between the global mass consumption and production of tea on agricultural labor, societies and Environments in India, South and Southeast Asia and Africa. Her book examines tea's global history from three interconnected perspectives and she argues that tea was one of the first agricultural industries to use imperial power and resources to engage in and pay for consumer and trade advertising and political lobbying in many locations over a long period of time. The model that tea developed is still used today and is critical to understanding the role of politics and publicity in shaping the geographies, power dynamics and problems in the modern global economy.	Env	
Harthorn, Barbara	Feminist Studies		Dr. Harthorn is a medical anthropologist and risk perception researcher. Her research broadly examines culture and health, health inequality, and technological risk and perception; in particular she is studying the intersections of socially constructed risk with gender, ethnicity/race, and other categories of difference. She was Director and Principal Investigator from 2005-2017 of the National Science	Env	http://www.cns.ucsb.edu/people/barbara-herr- harthorn-0
Walker, Janet	Feminist Studies,	Comparative Literature Program	Dr. Walker researches and teaches in the areas of documentary film, trauma and memory, and Environmental media with a concentration on climate justice. Her co-edited volume, Sustainable Media: Critical Approaches to Media and Environment (Routledge 2016, with Nicole Starosielski), is among her scholarly publications that study films and videos about Environmental topics and media infrastructures in the built Environment. Walker was one of five UCSB faculty convenors of the Mellon Sawyer Seminar on Energy Justice in Global Perspective (2017-2019) and serves as co-editor of the University Press open access journal Media+Environment (mediaEnviron.org).	Env	http://www.filmandmedia.ucsb. edu/people/faculty/walker/walker.html

Larue, Renan	French	Italian	Doctor Larue conducts research on vegetarianism and veganism as well as all religious, anthropological, moral, medical and Environmental debates surrounding these lifestyles throughout history.	Env	
Lopez-Carr, David	Geography	Global Studies	Dr. Lopez-Carr's research interests include land use, deforestation, rural poverty, and health. He recently conducted a project to try to understand what was causing rapid land change and urban transition in Ghana. Dr. Lopez-Carr analyzed population and health surveys conducted in the region as part of the project. He has additionally researched agricultural intensification in Guatemala and implications for food security in Latin America.	Env	http://geog.ucsb.edu/~carr/
Siegel, David	Geography		Dr. Siegel studies interdisciplinary marine science which couples physical, biological, optical, and biogeochemical processes. He has recently worked on collecting large scale ocean data by using ocean color variability from satellites. Differences in color can indicate distinguishing characteristics such as temperature and the overall biochemistry of the water. This data allows scientists to observe long-term trends and better understand the role oceans play in climate change as well as ascertain what marine ecosystems might look like in the future.	Env	http://www.icess.ucsb.edu/~davey/
Carvalho, Leila	Geography		Dr. Carvalho's research interests are in regional and large- scale climate variability and modeling, global climate change, and scaling processes in geophysics. More specifically, she researches the characteristics of Monsoon Systems and how these characteristics will be modified in future scenarios of climate change. Dr. Carvalho also looks at the pattern of increased precipitation rates in various regions around the world and investigates windstorms in Santa Barbara.	Env	http://www.icess.ucsb.edu/clivac/
Church, Richard	Geography		Richard Church specializes in the analysis of problems defined over space and time, including logistics and transportation, location theory, water resource systems, and urban and Environmental systems using and developing new techniques in Operations Research, GIS, Decision Theory, and Heuristics. He has published over 250 papers and research reports in a variety of fields, including Geography, Transportation, Location Science, Environmental Engineering, Operations Research, and Water Resources. Currently Church is working on issues of system resiliency and disruption. His current project is underway with the US forest service dealing with making national forests more sustainable and resilient to fire through fuels reductions. A different project focuses on evacuation vulnerability.	Env	geog.ucsb.edu/~forest
Clarke, Keith	Geography		Dr. Clarke is the author of the SLEUTH land use change model and has overseen a large number of applications and led adaptations and improvements of the model. The model is increasingly used in sustainability planning, in Iran, Turkey, India, Brazil, China, and elsewhere. The model is open source and supported via online discussion forums.	Env	http://geog.ucsb.edu/~kclarke/

Dickey, Tommy	Geography	Dr. Dickey studies interdisciplinary oceanographic and Environmental problems. He has researched air-sea interactions, coastal processes, pollution, and ocean technology, among other things. He recently analyzed ocean eddies in southern California, as well as creating an overview of sea state conditions and air-sea fluxes associated with the Office of Naval Research's Radiance in a Dynamic Ocean (RaDyO) field program. Through his research, Dr. Dickey has helped to launch key multi-platform observational networks to model and monitor global climate change and coastal pollution. Professor Dickey is currently researching the use of medical scent detection dogs for screening the COVID-19 virus and other diseases.	Env	http://www.opl.ucsb.edu/tommy/
Ding, Quinghua	Geography	Dr. Ding worked on developing an isotope-enabled global climate model and understanding the recent climate change in the Arctic and Antarctic from the perspective of climate dynamics. He found that the recent warming trend in the Arctic and Antarctic is partly attributed to a tropical SST-related natural variability. He joined the Polar Science Center in 2014 and accepted a faculty position at UCSB in 2016. For future research, his focus is on exploring polar-lower latitude connection in the past 1000 years by using atmosphere-ocean- ice fully coupled GCM, isotope-enabled GCM and paleo- climate proxy data. The ultimate goal is to provide more reliable future projections of the polar climate response to anthropogenic climate forcing.		
Funk, Chris	Geography	As a founding member of the UCSB Climate Hazard Center, Dr. Funk's research has focused on drought monitoring, drought prediction, and the evaluation of long-term trends in climate and food security. Recently, Dr. Funk has worked to implement improved methods of monitoring trends and predicting droughts, primarily in Sub-Saharan African communities. This monitoring and predicting is done by using satellites to track precipitation patterns that can be linked to long-term trends. Dr. Funk's research allows African officials to make sustainable decisions concerning community development and future food security.		http://chg.geog.ucsb.edu/people/chris-funk/
Goulias, Kostas	Geography	Dr. Goulias' research interests include sustainable and green transportation, as well as human-Environment relations. His models and simulations track fuel consumption and pollutants emitted (greenhouse emissions). He has also studied non- motorized transportation, hybrid-electric vehicles, and air pollution control program evaluation.		http://www.geog.ucsb. edu/geotrans/publications.php
Jones, Charles	Geography	Dr. Charles Jones co-heads the Climate Variations and Change research group. His work is dedicated to achieving a better understanding of the Earth's present and future climates on different temporal and spatial scales. His research interests are in Dynamic Meteorology and Climate Sciences, and his research topics include the Madden-Julian Oscillation (MJO), predictability of extreme events (especially precipitation).	Env	http://www.eri.ucsb.edu/people/charles-jones

King, Jennifer	Geography	Dr. King studies the interactions between soils, plants, and the atmosphere. Her research focuses on biogeochemical processes, which are those processes that cycle elements on Earth, and examines how these processes are influenced by natural and human-induced Environmental changes. She recently investigated biogeochemical cycling of carbon, nitrogen, and phosphorus in urban households and how human decisions impact the fluxes of these elements. Current projects	Env	http://geog.ucsb.edu/~jyking/
Knapp, Denise	Geography	include examination of biotic and abiotic factors affecting the carbon cycle in California grasslands. Doctor Knapp is a community ecologist who studies plant- invertebrate interactions to achieve habitat and species restoration. Her current work includes restoring pollinator networks associated with rare plants, techniques to restore diverse native communities in areas dominated by invasive plants, and the baseline study and re-building of ecological networks on California's Channel Islands.	Env, Soc	
Loaiciga, Hugo	Geography	Professor's Loaiciga research focuses on the planing, design, and analysis of water resources systems, and on the computational aspects of surface water and groundwater hydrology. He currently researches (a) landslide occurrence caused by rainfall and earthquakes, (b) the determination of the safe yield for sustainable groundwater management, and (b) stormwater management in urban areas		http://geog.ucsb.edu/~hugo/
McFadden, Joe	Geography	Professor McFadden studies how changes in land cover and land use modify flows of water, energy, and carbon between ecosystems and the atmosphere. His current work is focused on measuring and modeling these processes in cities and suburbs, with the aim of using that knowledge to inform urban design and planning.		http://www.geog.ucsb.edu/people/faculty/joe- mcfadden.html

Michaelsen, Joel	Geography			Dr. Michaelsen's research focuses on analyzing climate variability and climate change using statistical modeling techniques. Along with the members of the Climate Hazards Group (CHG), he has worked on implementing improved methods of monitoring and predicting rainfall variations in Sub- Saharan Africa and Central America on seasonal and longer time scales. This monitoring and prediction is done by blending data from satellites, weather stations, and models. The primary objectives of the research are to: 1) provide African officials and relief agencies with early warning of developing drought conditions on seasonal time scales that could increase food insecurity; and 2) determine relationships between rainfall and larger atmospheric circulation and ocean temperature patterns that may help officials adapt rainfed agricultural systems to longer term changes in rainfall regimes associated with global warming.		http://geog.ucsb.edu/~joel/
Roberts, Dar	Geography			Dr. Roberts' research interests include urban ecology and energy balance. He has studied sustainable land use through investigating the impacts of deforestation and pasture degradation and has mapped methane emissions across landscapes. His primary research tool is remote sensing.	Env	https://sites.google.com/site/ucsbviperlab/
Sweeney, Stuart	Geography			Dr. Sweeney's research interests include applied statistics and spatial analysis, research methodology, demography, economic geography, and development studies. He has conducted a study that looked at maize, one of the most economically and culturally important crops produced in Mexico. Dr. Sweeney discovered that changes in the production of this crop, caused by increased market integration and changes in irrigated land use, can impact consumption, livelihood, and food security. His most recent research has focused on time use and time poverty of women agriculturalists in rural Senegal and how they are impacted during pregnancy and climate shocks.		http://www.geog.ucsb. edu/~sweeney/Sweeney/UCSB_GEOGRAPH Y.html and http://geog.ucsb.edu/~sweeney/
Hajjar, Lisa	Global	Film and Media Studies	Middle East Studies	Doctor Hajjar's scholarship focuses on international law, war and conflict, human rights, torture, and targeted killing. She is the author of Courting Conflict: The Israeli Military Court System in the West Bank and Gaza (University of California Press, 2005) and Torture: A Sociology of Violence and Human Rights (Routledge, 2013). She is a co-editor of Jadaliyya, and has served on the editorial committees of Middle East Report and Journal of Palestine Studies. She is working on two new books: The War in Court: The Inside Story of the Fight against Torture in the "War on Terror" which will be published by University of California Press, and Genealogies of Human Biothte in the Arab World which is coauthored by Omar		

Clemencon, Raymond	Global Studies	"Dr. Clemencon's policy research has focused on international climate negotiations and the Paris Agreement, international organizations, sustainable development, and globalization. Currently, he is examining how different countries define and try to operationalize the concept of sustainable development and the political processes that determine the allocation of funds for climate change through multilateral mechanisms like the Green Climate Fund and the GEF and the World Bank. Dr. Clemencon is interested in the political opportunity structures that determine a country's ability to provide leadership in the climate negotiations."	http://www.soc.ucsb.edu/faculty/raymond- clemencon
Jacobson, Lisa	History	Dr. Jacobson's research touches on issues that are related to sustainability through her examination of the alcoholic beverage industries in the context of food rationing during World War II. This is part of her larger book-length project on the history of alcohol after Prohibition.	
Chattopadhyay , Swati	History of Art and Architecture	Swati Chattopadhyay is Professor in the Department of History of Art and Architecture at the University of California, Santa Barbara. She is the author of Representing Calcutta: Modernity, Nationalism, and the Colonial Uncanny (Routledge, 2005), Unlearning the City: Infrastructure in a New Optical Field (Minnesota, 2012), the co-editor (with Jeremy White) of City Halls and Civic Materialism: Towards a Global History of Urban Public Space (Taylor and Francis, 2014) and Critical Approaches to Contemporary Architecture (Taylor and Francis, forthcoming). She received a Guggenheim Fellowship in 2015- 16 for conducting research on her book project, Nature's Infrastructure: British Empire and the Making of the Gangetic Plains, 1760-1880.	
White, Jeremy	History of Art and Architecture	Jeremy White is co-editor and contributing author of a book on city halls, a global architectural history of the building type; Jeremy's chapter focuses on Los Angeles City Hall. His current projects include a housing study of Isla Vista as a dense suburb and researching historical landscape change in Santa Barbara. He is as interested in spatial use as he is in the design of form, in the role of the architect as well as the complete life of the building, from drawing board to demolition.	

Elver, Hilal	International Studies	Global Studies	Hilal Elver is a Special Rapporteur on the Right to Food, part of the UN Human Rights Council. She has presented to the UN General Assembly on "Conflict situation, hunger and right to food" and to the UN Human Rights Council, on "Natural disasters, extreme weather events and hunger". She also published two books: Headscarf Controversy: Secularism and Freedom of Religion and Reimagining Climate Change, which she co-edited. Elver is also working on UN Sustainable Development Goals (2030 Agenda), focusing on food systems, food security and nutrition, climate change, and human rights.		
Auston, David	Materials		Dr. Auston's research is in the field of picosecond and femtosecond optics and their applications to nonlinear optics and solid-state materials. He helped establish the field of ultrafast optoelectronics, which uses picosecond and femtosecond lasers to measure, with very high time precision, the dynamic electronic properties of materials. Dr. Auston's primary activity is to coordinate the applied research programs of the 10 UC campuses with regard to the UC Carbon Neutrality Initiative. As a member of the UC President's Global Climate Leadership Council, he is centrally involved in helping direct research that will advance the UC toward its goal to achieve zero greenhouse gas emissions by 2025.	Env	
Gossard, Arthur	Materials	Computer Science	A member of the Institute for Energy Efficiency, Professor Gossard contributes to research on molecular beam epitaxial grow of quantum dot structures for high efficiency lasers on silicon substrates and on semiconductor computer chips.	Env	http://engineering.ucsb.edu/faculty/profile/169
McMeeking, Robert	Materials	Mechanical Engineering	Dr. McMeeking undertakes research on lithium-ion batteries and solid oxide fuel cells with the aim of improving their energy capacity, increasing their ability to deliver high power, and, in the case of batteries, enabling them to be recharged rapidly. Both lithium-ion batteries and solid oxide fuel cells are important elements in the strategy to reduce carbon emissions, as energy generated by low carbon emission methods can be stored and transported in the batteries, and solid oxide fuel cells can use hydrogen as the fuel, thereby avoiding the production of carbon dioxide. McMeeking uses computational modeling of both system to identify improved microstructures and designs.	Env	http://engineering.ucsb.edu/faculty/profile/204
Den Baars, Steven	Materials		Dr. Den Baars' research interests include growth of wide- bandgap semiconductors and their application to Blue LEDs, lasers, and high power electronic devices. His research is used for the fabrication of new semiconductor devices. This research is important to the development of more energy-efficient lighting. LED Lighting is 9 times more efficient than incandescent bulbs, has the potential to save more than \$40Billion in annual energy savings per year, as estimated by the Department of Energy (DOE).	Env	http://www.materials.ucsb. edu/LINKS/PROFdenbaars/hp.denbaars.html

Nakamura, Shuji	Materials	power light emitting diodes (LEDs) for lighting and laser diodes (LDs). His discovery of p-type doping in Gallium Nitride (GaN), growth of first Indium Gallium Nitride (InGaN) and development of blue, green, and white LEDs and blue laser diodes (LDs) has enabled energy efficient lighting and displays.	Env	http://www.materials.ucsb. edu/recruitment/Faculty/nakamura/nakamura. php
Pollock, Tresa	Materials	Professor Pollock's reserach considers new L12-Containing Cobalt-Base Alloys. These new structural and functional materials enable a multiplicity of paths to improved efficiency in energy generation, storage, transmission and conversion. While alternative energy technologies are highly desirable, for the foreseeable future fossil fuels will be a primary energy source. This motivates discovery of new structural materials that can increase the operating temperatures within energy generation systems and provide critically needed improvements in the efficiency of power generation.	Env	
Speck, James	Materials	Professor Speck's research focuses on high efficiency solid state lighting. This lighting is expected to be 10-20 times more efficient than conventional incandescent and halogen lighting and 2-3 times more efficient than fluorescent lighting.	Env	http://www.materials.ucsb. edu/recruitment/Faculty/speck/speck.php
Van De Walle, Chris	Materials	Dr. Van de Walle's research covers a broad range of issues related to renewable energy and energy efficiency. He is engaged in fundamental studies of group-III nitride semiconductors, the key materials for solid-state lighting, and gallium oxide, a novel material that will make high-power electronics much more efficient. He also investigates hydrogen storage materials and materials for fuel cells and coatings for smart energy-saving windows.	Env	http://www.mrl.ucsb.edu/~vandewalle/
Van der Ven, Anton	Materials	Professor Van der Ven's research involves understanding and predicting equilibrium and non-equilibrium materials properties from first-principles. He combines electronic structure methods (density functional theory) with techniques from statistical mechanics to calculate thermodynamic and kinetic properties of new materials, including oxides and structures of assembled nanoparticles for battery and fuel cell components, metallic alloys, alloy surfaces for catalysis, and organic electronic materials.	Env	https://vandervengroup.materials.ucsb.edu/
Weisbuch, Claude	Materials	Dr. Weisbuch's research involves semiconductors, physics, and LEDs. He and his team of researchers recently collaborated with scientists from other universities to identify what causes light emitting diodes (LEDs) to be less efficient at high drive currents, a phenomenon known as LED 'droop.' They showed that 'droop' is caused by Auger recombination, a process by which energetic electrons, instead of emitting light, collide with other electrons and lose their energy in the form of heat. Understanding the origin of droop will lead to more efficient and cheaper LEDs. They provide long-lasting, highly efficient light sources and could further lessen the US' total electricity use from the foreseen 40% decrease if LED lamps were to replace less efficient incandescent and fluorescent lights, and accelerate the situation.	Env	http://industry.ucsb.edu/faculty/profile/187

Gibou, Frederic	Mechanical Engineering	Mathematics	Dr. Gibou's research focuses on the design and applications of high resolution computational methods. These are used in materials science in the study of solidification processes used in the energy sector, as well as in the study of fluid motion applied to flows at the micro and the nanoscale levels. Applications include the study of flows in porous media, including those in oil reservoirs or in porous electrodes of supercapacitors. Dr. Gibou's work has helped develop models enabling the understanding of the charging of supercapacitors. Gibou is part of a MURI (Multi-University Research Initiative) team that is developing physics-based computational approach for predicting multiphase flows with high fidelity, with a focus on understanding cavitation in a turbulent Environment. When considering that bubbles are responsible for a large loss in propulsion efficiency and that about 90 percent of the world's goods are transported by sea, any progress on ships' efficiency will translate into significant reduction of our energy consumption.	Env	http://www.engr.ucsb.edu/~fgibou/Home.html
Levi, Carlos	Mechanical Engineering	Materials	The overarching theme of Dr. Levi's research is the fundamental understanding of microstructure evolution in inorganic materials during synthesis and subsequent service, and the application of this understanding to the design and synthesis of improved coatings, thin films, composites and monolithic systems, with emphasis on materials for more efficient energy and propulsion systems. Current areas of work include thermal and Environmental barrier coatings for advanced gas turbine components with higher fuel efficiency and reduced Environmental impact, fibers and Environmentally robust matrices for ceramic matrix composites, novel high temperature alloys and multi-phase functional materials, all related to energy production systems.	Env	
Bullo, Francesco	Mechanical Engineering		Dr. Bullo has investigated efficient methods to improve the functioning of our power grid. His work involves how to suppress energy-consuming inter-area oscillations and how to integrate increasing percentages of renewable energy into the current grid.	Env	
Eisenhower, Bryan	Mechanical Engineering		Dr. Eisenhower's research has two main thrusts: 1) tools for data analysis, aggregation, and visualization of building performance data, and 2) methodologies to enhance design and operations of buildings, using model-based engineering. Buildings generate enormous amounts of data that are rarely studied. By creating algorithms that can precipitate key features of their performance, faulty equipment and suboptimal performance can be identified and addressed. Similarly, by improving models used for building design, optimized design and operational strategies can be identified. Dr. Eisenhower's research is creating new ways to analyze building data and use engineering models leading to high performance building designs.	Env	<u>http://engineering.ucsb.edu/~bryane/index.</u> <u>html</u>

Foster, Kimberly (formerly Turner, Kimberly)	Mechanical Engineering	Dr. Foster's research interests include the development of synthetic adhesives that make use of large arrays of micrometer and submicron hierarchical polymer fibers for climbing robots by mimicking the fibers on gecko feet.	Env	http://engineering.ucsb.edu/~tmems/
Matthys, Eric	Mechanical Engineering	Dr. Matthys conducts Sustainability research, mostly in the Energy area. He is leading efforts in Solar Energy, especially on new Concentrated Solar Thermal approaches, as well as in Energy Efficiency projects, such as developing new technologies for HVAC systems for buildings and for ship propulsion.	Env	http://www.me.ucsb.edu/~matthys/
Meiburg, Eckart	Mechanical Engineering	Dr. Meiburg investigates fluid flow problems in the atmosphere and the oceans, by means of large-scale computer simulations. In recent years, he has studied such problems as mixing of warm and cold water in the ocean, as well as the transport of sediment and biogenic particulate matter by oceanic currents. Understanding these processes is important for predicting the oceans' ability to absorb atmospheric carbon dioxide, which, in turn, represents a critical element in all climate models. Dr. Meiburg's research finds additional application in the development of energy-efficient heating and cooling strategies for buildings.	Enviro, Soc	http://me.ucsb.edu/faculty/profile/205
Meinhart, Carl	Mechanical Engineering	Dr. Meinhart's research group investigates fundamental fluid mechanics problems at the micro-scale and nano-scale, with special emphasis on transport issues in MEMS-based sensors for detection of specific biological molecules. His research allows the detection of highly sensitive and specific detection of trace chemicals through the combination of surface-enhanced Raman Spectroscopy with microfluidics.	Env	
Mezic, Igor	Mechanical Engineering	Dr. Mezic's current research is centered on an operator- theoretic approach to analysis of nonlinear dynamical systems, applications in microfluidics and (bio)-nanotechnology. The research topics can be grouped as follows: 1) mixing and separation in fluids across the scales with applications ranging from microfluidic phenomena to oceanographic flows; 2) nano and micro-scale particle dynamics induced by dielectrophoresis and other electrokinetic phenomena, with applications to biotechnology; 3) multiscale dynamics of the Atomic Force Microscope, including interactions with biomolecules; and 4) dynamical systems theory of complex systems, including large- scale networked systems. In each of these topics, the research is characterized by pursuit of the key physical phenomena in a device or system, followed by the abstraction of the mathematical problem (or problems) associated with it. The loop is closed by applying the solution of the mathematical problem to explain the physical phenomena or design new concepts based on which devices can be built or improved.	Enviro	http://industry.ucsb.edu/faculty/profile/175

Odette, George	Mechanical Engineering		Dr. Odette's research interests focus on developing materials for future fusion and fission energy systems that will improve safety and reduce waste issues. He also looks at materials issues related to the safety of the current fleet of light water nuclear reactors.
Pennathur, Sumita	Mechanical Engineering		Dr. Pennathur measures, models, and predicts how fluids and molecules move. Specifically, she engineers nanotechnologies that harness the movement of fluids and ions within electric fields. Her lab has discovered and then employed the fundamentals of nanoscale electrokinetics to design novel rechargeable batteries; portable diagnostic devices; and low- power wearable biosensors.
Soh, Hyongsok (Tom)	Mechanical Engineering Material Engineering	Materials	Professor Soh's lab develops advanced biosensors that are highly sensitive and specific with rapid results. Recently, his laboratory pioneered the development of real-time biosensors that can continuously measure specific biomolecules directly in living animals. Their study of integrated biosensors have many applications in medicine, defense, food safety, and Environmental monitoring. (font and size of font difference)
	Molecular, Cellular and Developmental Biology		Professor Morse and his group conduct research focused on biophotonics and biologically inspired photonic technologies to improve the efficiency of solar energy, llight-emiting diodes and infrared detectors. Previously recognized for their innovation of "Silicon Biotechnology," the team's approach is focused on advantageous mechanisms they are discovering in biological systems and translating into practical new materials and engineering. Env http://www.mcdb.ucsb. edu/people/faculty/morse
Passow, Uta	Ocean Acidification		Dr. Passow's research seeks to answer the question of "How does the response of organisms and ecosystems change the functioning of the biological pump in a changing world?" Her research tries to achieve a mechanistic understanding of organisms and processes which determine sedimentation rates in marine systems, now and in the future. Currently, Passow specifically investigates how the input of fossil carbon impacts the growth of autotrophic and heterotrophic microbes, aggregation rates, and the production and microbial degradation of organic carbon. Her research also explores the effects of ocean acidification on microbial degradation and on aggregation and the drivers of the large fluctuations in normal pH off coastal California.

Moskovits, Martin	Physical Chemistry	Dr. Moskovits' research interests falls into two bro categories: (i) plasmonics and surface-enhanced spectroscopy (SERS) and (ii) nanowire synthesis nanowire-based sensing. In plasmonics, he has tw goals: the first is to create plasmonic analogs of p and photosynthetic systems. Recently, his researc produced the first device ever reported which use electrons resulting from the decay of plasmons in nanorods to reduce hydrogen ions in water and us positive charges left behind to oxidize water to ox device is a free running cell floating in water, with sole energy source.	Raman and vo major notovoltaics h group s the gold ues the vgen gas. The	
Heeger, Alan	Physics	Dr. Heeger, a Nobel Prize Laureate, researches the of semiconducting and metallic polymers. Part of has focused on low cost, thin, flexible solar cells. has discovered a way to make solar cell materials solar cell "liquid-ink" can be printed like a newspa low cost, revolutionizing the solar cell manufacturi	his research html Dr. Heeger soluble. This per at very	mrl.ucsb.edu/mrl/faculty/heeger.
Paasha Mahdavi	Political Science	Paasha Mahdavi's research broadly explores the extractive resource wealth and its implications for governance, individual political behavior, and clim His first book analyzes the political determinants a consequences of nationalizing oil, metals, and rar minerals essential for clean energy. Separate wor how oil extraction affects corruption, electoral out Environmental regulations, and energy transition s major oil firms and oil-producing governments. In convey research-based international energy and I policy solutions to broader stakeholders, Mahdavi as non-resident fellow at the Colorado School of H Hopkins SAIS, the World Economic Forum, and a member at the Council on Foreign Relations.	good ate policy. nd -earth c explores omes, trategies of striving to nvironmental has served lines, Johns	
Smith, Eric	Political Science	Professor Smith's work focuses on U.S. public op political behavior regarding energy and Environm He investigates, for example, public support for or renewable energy production facilities and offshor He is also working on the problem of how much p about energy and Environmental issues and why or reject factual claims about energy and Environ by scientists.	ental issues. opposition to e oil drilling. eople know beople accept	polsci.ucsb.edu/faculty/smith/
Mildenberger, Matto	Political Sciences	Dr. Mildenberger's research explores the political policy inaction in the face of serious social and ec threats posed by global climate change. Straddlin political economy and political behavior, Mildenbe focusses on comparative climate policymaking an dynamics of US climate opinion. His most recent compared the politics of carbon pricing across ad economies, with a focus on the history of climate Australia, Norway and the United States. In additt leads the Environment and Energy Transitions (En in the Department of Political Science.	onomic g comparative ger's work d the book vanced eforms in on, Matto co-	mattomildenberger.com/

Stokes, Leah	Political	Bren		Dr. Stokes' research primarily examines work on energy,	Enviro Foor	http://www.polsci.ucsb.edu/faculty/stokes/
	Sciences,			climate and Environmental politics. Within Environmental politics, She focuses on climate change, renewable energy, water and chemicals policy. public policy, public opinion and political behavior in North America, with a focus on energy and the Environment. Her most recent work examines expansion and retrenchment in renewable energy policies across US states, using qualitative and quantitative methods. Her work on energy and Environmental policies has been published is Energy Policy, Environmental Science & Technology, and The American Journal of Political Science. She also researches international Environmental negotiations, particularly the Minamata Convention on mercury and the climate change negotiations.		Titp://www.poisci.ucsp.edu/racuity/stokes/
Mackie, Diane	Psychology			Dr. Mackie's research spans two distinctly different domains: intergroup relations (focusing on the affective, cognitive, and motivational processes by which group memberships influence people's thoughts, feelings, and behavior) and social influence (focusing on the affective, cognitive, and motivational processes by which peoples' attitudes and behavior are changed). Her study of the antecedents and consequences of attitudes and norms can be applied to sustainability relevant behaviors.	Env	
Sherman, David	Psychology			Professor Sherman's research primarily centers on how people respond to and cope with threatening events. His research extends to understanding the psychological and social barriers to sustainability and how to overcome them.	Env	
Kim, Heejung	Psycology			Dr. Kim's research examines how different social and biological factors, such as religion, social class, national culture, as well as genes, impact how individuals are motivated to engage in sustainability actions.	Soc, Env	
Campo, Juan	Religious Studies			Professor Campo is currently researching modern mass pilgrimages. One aspect of this topic is the impacts millions of pilgrims and pilgrimage infrastructures have on the local Environments in Mecca, Guadalupe (Mexico City), and Sabarimala (South India). He has presented his findings at conferences in Germany, Singapore, and New York. His work on this subject will be included in a book about these pilgrimages in the contexts of modernity.	Env	
Falasca- Zamponi, Simonetta	Sociology	French	Italian	Dr. Falasca-Zamponi's book "Waste and Consumption: Capitalism, the Environment, and the Life of Things" examines the link between waste and consumption through a cultural approach that integrates Environmental concerns with reflections on the role that consumption has come to occupy in our contemporary capitalist societies.	Env, Soc,	
Foran, John	Sociology			Professor John Foran's current area of focus and interest include the climate crisis, 21st-century movements for radical social change, and sustainable development for building better futures.	Soc, Env	

Rice, Ronald	Statistics		Professor Rice studies, among other topics, public communication campaigns, with some emphasis on Environmental communication. In his most recent edition of "Public Communication Campaigns"; he co-authored a chapter that applies principles of social marketing to communicating about ocean sustainability. That chapter focused on developing a strategic approach to designing and implementing messages about ocean sustainability issues, such as ocean pollution, warming, acidification, overfishing, and low oxygen levels. He has also published research on college campus water bottle usage, ocean sustainability literacy, news images about climate change, and uncertainty and controversy in climate change news. In 2015, Professor Rice co-organized a day-long conference on Sustainable Science Communication (see http://sustech.ucsb.edu/sustainable-science- communication- conference) and a post-conference International workshop on climate and sustainability campaigns (see http://www.comm.ucsb. edu/faculty/rrice/ICA_Environmental_Communication_Post- Conference_2015.html).He also organized the 2019 Rupe conference on The Secret Lives of Plastic: Materials, Recycling, Oceans, & Communication, available here: https: //www.comm.ucsb.edu/news/annual/arthur-n-rupe#2019	Env	http://www.comm.ucsb. edu/faculty/rrice/ricelink.htm
Kryder, LeeAnne	Writing		Professor Kryder's research focuses on the rhetoric of Environmental sustainability. In particular, she analyzes how American businesses address sustainability and considers how Writing Studies pedagogy can refine Environmental awareness and assist students to engage with securing our common future. Her students conduct research to learn about sustainability concerns, then practice various writing strategies that can raise awareness and empower change.	Env, Soc,	
Propen, Amy	Writing		Dr. Propen's research interests include visual and material rhetorics, Environmental and sustainability rhetorics, digital and posthuman rhetorics, rhetoric and technical communication as advocacy work, writing in the disciplines, classical and contemporary rhetorical theory, animal studies, human geography, critical cartographies, and critical GIS.	Env, Soc,	
James Donelan	Writing Program	English	Dr. Donelan conducts research into pedagogical issues related to sustainability, including remote teaching. In addition, he has recently begun a project to examine the relationship between Research I universities and their communities through community writing, with a particular focus on how this relationship affects local economies and local sustainability initiatives.	Env, soc, econ	

		offers a glimpse into the global chocolate industry, where there are allegations that enslaved children are used to harvest beans in Ivory Coast, which produces 40% of the world's cacao. "Nothing Like Chocolate" focuses on the Grenada Chocolate Company founded by Mott Green, as well as on an independent farmer, Nelice Stewart, who grows organic cocoa beans. Green (deceased June 2013) created a worker-owned cooperative which brings profits back to the working shareholders, who include the farmers and all factory workers at the company. The film discusses how solar power and ethical technology can create a sustainable, community-based business, and, therefore, can undermine global unethical practices.	Env	bhavnani

	1		