

ERG NEWSLETTER

Energy and Resources Group

University of California, Berkeley

COMMENCEMENT 2007 EDITION

Friday, May 18, 2007

10:00 a.m. at the Alumni House

SPEAKER



Peter Vitousek

Peter Vitousek, a faculty member at Stanford University since 1984, is Professor of Biological Sciences and Clifford G. Morrison Professor of Population and Resource Studies. He has devoted his career to studying the earth's metabolism and life cycles, zeroing in on how the intricate machinery of its forests is altered by people and the introduction of new plants and animals. Born in Honolulu, Vitousek performs most of his field research in Hawai'i and is a notable researcher on Hawai'ian ecosystems. His thinking is global, linking biodiversity conservation concerns with the functioning of ecosystems and with the workings of the biosphere. His laboratory focuses on studying nutrient cycling in forest ecosystems, on the effects of invasions by exotic species, and more recently on interactions between ecosystems and human societies in Hawai'i prior to European contact. Vitousek has authored and contributed to well over 200 published research studies, book chapters, and monographs.

CONGRATULATIONS to the Class of 2007 on the completion of their degrees: ERG wishes them continued success.

Ph.D. Recipients

ERIN CONLISK: Erin traded up from chemistry to ecology. She found ERG by following home some students with their right pants legs rolled up, looking as if they had been living rough in the field. In ERG, she found good science joining good policy, good people helping each other and the greater community (staff, faculty, and students), a good candy bowl, and good fun along with the hard work. Now she is having trouble filing her dissertation, not because of marginal offenses, but because she hates to leave home.



REBECCA GHANADAN: ERG has been a pivotal experience in my life and encouraged me to pursue my interest in exploring interconnections - between energy and society and between developing and more developed countries. My dissertation "Public Service or Commodity Goods? Electricity Reforms, Access, and Development in Tanzania" combines energy analysis, human geography, and development studies to examine the social implications of a shift toward market-based provision of basic services in Africa. Originally, I set out to do renewable energy research in Africa, but I could not ignore the extensive process of



market reforms I saw creating profound changes all around me in Africa. My research has taken me to work closely with NGOs, utilities, and the World Bank, and I carried out community-level field studies in Tanzania and South Africa. I also gained the enjoyment of interacting with my Tanzanian "family", now over more than a decade since I first studied and lived in East Africa as an undergraduate in the early 90s. Even in a small way, I hope to make energy policy more accountable to inclusive development. I am grateful to the friends and lifelong colleagues I have gained as an ERGie: bike rides with Julian, skiing with Garvin, chocolate with Donna, dancing with Barb and Renata, and all of you— I am transformed by your optimism, hard work, and commitment to positive social change. I thank Hamid for being my true partner and a source of fun at every turn – you deserve an honorary master's for your support over seven years. I also honor Huruma Chaulla, my research assistant, whose memory lives on in my work.

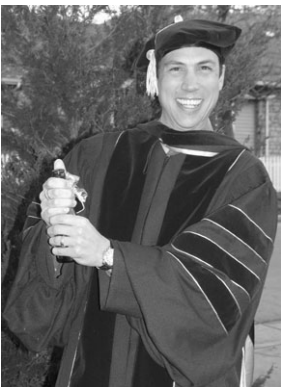
RAQUEL MORENO-PENARANDA:

I started my Ph.D. at ERG after graduating in Biology and completing my M.S. in Environmental Analysis at the Autonomous University of Barcelona. There I studied botany, ecology, soil science, and biogeography. In my doctoral studies I have explored the human dimensions of environmental change, including sustainable agriculture movements, traditional farming systems, the international organic market, and the globalization of agri-food systems. At Berkeley, I have been



trained in ecological economics, political ecology, energy studies, sociology, and field research methods. I have undertaken several professional internships in institutions such as the Global Environmental Facility, the Brazilian embassy in Washington D.C., and I have been part of projects sponsored by the Spanish Agency for International Cooperation at the University of the Amazon in Colombia, and the Federal University of Rio Grande do Sul in Brazil. Field research during my doctoral studies includes time with the Landless Workers Movement (MST) and research on the adoption of organic farming practices in tobacco family farms in Brazil. My dissertation looks at the contradictions emerging from the conversion to certified organic farming in terms of identity, power, and environmental change. While writing my dissertation I have been working as a research assistant for the Vice-Chancellor's Office for Research at UCB. My immediate future plans include finishing a piece on community natural resource management in Spain and a co-authored paper on co-evolutionary theory and agro-environmental change. In the fall 2007, I'll be a lecturer at ERG for a special topics class called "Critical Natures: Contemporary Perspectives on Global Food and Agriculture."

GARVIN HEATH: It was an opportunity and a privilege to study at ERG. Entering with an interdisciplinary undergraduate degree in environmental science, ERG immediately felt like home. I reveled in the encouragement ERG provides its students to explore the breadth and depth of the Berkeley campus, all the while grounded by the advising and support of my mentor, Bill Nazaroff. In a conversation about Masters research project topics, Bill presented the kernel of what became the subject of my dissertation: the implications for human inhalation exposure of emissions from small-scale, distributed electricity generation technologies. With the clarity of a conceptual model and the hope that others would consider the topic important, I managed to piece together grants, fellowships, scholarships, and side consulting projects to "complete" the work. (Is a research project ever done?) I had moved to Boulder, CO for the last portion of the research and writing and am now locally employed with an environmental science and engineering consulting firm, Integral Consulting. There I work in the Public Health and Air Quality teams while also building a practice area in corporate sustainability and climate change. I am also affiliated with the School of Engineering at the University of Colorado Boulder where I am advising the research of a doctoral student. Starting in mid-November life accelerated: I started my new job, filed the dissertation (Dec '06), bought a house (closing May 15) and will have our first child (due June 15)! It's an exciting time that I wish I could have cherished with my ERG family on this graduation day. Many thanks to the ERG community of students, staff and faculty -- and come visit us in Boulder!



GREG NEMET: has finished his dissertation, "Policy and Innovation in Low-carbon Energy Technologies." In it he looked at the question of how public policy can create incen-

tives for investments to improve and deploy climate-related energy technologies. He will present some of this work at the International Energy Agency next month. The range of policies implemented and investments made, in California and beyond, since Greg began this work in 2002 has made this an exciting research topic, but also a rapidly moving target! ERG has not only provided a supportive community, but also a place that was well-suited, maybe uniquely so, to the policy-oriented interdisciplinary research that he is most interested in. He feels especially fortunate for the advice and support from his committee: Dan Kammen, Margaret Taylor, and Severin Borenstein. He began a new project last fall with the birth of his now 7-month old daughter, Pamina. This summer, Greg, Pamina, and his wife Linda, will move to the midwest where Greg will start as an assistant professor of public affairs and environmental studies at the University of Wisconsin-Madison. At Madison he will be teaching courses in energy analysis and public policy. Following up on questions that emerge during his dissertation, he plans to continue his research on energy policy, climate, and technological change within the university's Energy Institute.



LEAH NICHOLS: I chose to pursue a graduate degree at ERG after receiving a Bachelors degree in environmental engineering from the Massachusetts Institute of Technology, because I wanted to enhance my education in the environmental sciences with an understanding of the relevant economic, political, legal, and cultural aspects of human society. At ERG, I discovered the power and importance of knowledge creation processes. Since Science shapes so much of our world, understanding what, how, and why such knowledge is created is essential to solving today's global challenges. My dissertation, "Academic Cartography: How Patents and Industry Shape Biological Research", explores how the intertwining of academic and industrial interests has influenced the production of biological knowledge in academia. I plan to continue this line of research with a career in either academia or science and technology policy. I would like to thank my advisers, Gene Rochlin, Dick Norgaard, Ignacio Chapela, and David Winickoff, for their unending insight and guidance. Thank you also to my family, fellow ERGies, and friends; without your support this degree would not have been possible.



AMOL PHADKE: My dissertation research is on electricity reforms in developing countries with a focus on India. A part of this research is empirical where I analyze the outcomes of electricity sector reforms. More specifically, my research is on



the investments by independent power producers (IPP) in developing countries where I estimate the mark-ups in the stated capital costs of their power projects. I find large (50%) mark-ups for projects that did not face effective competition or regulatory scrutiny, which was the case for a large number of IPP projects. The other part of my dissertation research is a simulation exercise where I analyze the feasibility of competition in a developing country context by undertaking a case study of Maharashtra State, India and I find that with certain policies, a competitive wholesale electricity market is feasible there. My dissertation shows the importance of effective competition or regulation in the electricity sector and provides insights into some of the important issues surrounding these.

Currently, as a Post Doctoral Fellow at LBNL, I am continuing to undertake research on electricity sector policies. At LBNL, I am focusing more on energy efficiency and climate change related issues. I feel lucky that I am still able to live in Berkeley and interact with ERGies often. Life after graduation is essentially the same as it was before, a little more regulated and relaxed. I am deeply grateful to many at ERG and UC Campus for their friendship, ideas, and support on a personal and a professional level during all these years

CHAD WHITE: Pondering environmental impacts from industrial products and production, Chad has bumbled around ERG for nearly a decade studying styles of governance. He

came to Cal with a bachelors degree in chemical engineering, a couple years of environmental consulting experience, and curiosity about industrial ecology as a framework for regulation. After carrying out an empirical study to model stages of waste electronic products (e-waste) recycling, he earned his masters degree at ERG in 1999. Along the way, the siren song of social science ran his previous plans aground and swept him up into critical study of organizations and technology that he jokingly calls "Rochlinism." Tarrying for two years into research on public-private energy technology partnerships, Chad undertook a dissertation on corporate environmental politics and learning. To learn how semiconductor companies go about "being green," he investigated the formal systems developing to benchmark their environmental performance and guide their strategies. (He finds that, when formal systems weakly motivate, progress depends instead on plucky, informal networking among environmental staff.) Still fondly viewing ERG as a "halfway house for recovering technocrats and positivists," Chad thanks past and present ERG staff, students, and faculty for their support, guidance, and belief in him as a student and scholar. Still in transition from ERG, he looks forward to ongoing research and teaching in his career, while dreaming of starting a business that makes reusing products and building materials an attractive alternative to buying new.



(Continued on page 4)

CONGRATULATIONS TO THE MASTERS CLASS OF 2007



From left to right:
Sam Arons, Sintana Vergara, Derek Lemoine, Fritz Kahrl, Will Coleman, Gabriella Wong-Parodi, Bret Harper, Kevin Fingerman, and Tiffany Shih.

Masters Recipients

SAM ARONS: I first became interested in renewable energy and climate change in college, where I wrote my undergraduate thesis on the feasibility of a local wind farm. After graduating, I taught math in Morocco for a year before joining the ERG community in the fall of 2005. ERG has been an amazing place to spend the last two years -- I have learned a tremendous amount, participated in exciting research projects, and become involved in initiatives to make the UC Berkeley campus more environmentally sustainable. Most importantly, I have had the opportunity to interact with, and learn from, my fellow ERGies, who are some of the most amazing people I have ever met. My Masters project focuses on plug-in hybrid vehicles (like regular hybrids, but with a plug that can recharge the batteries directly from a wall socket), and asks whether or not they represent a cost-effective means of reducing greenhouse gas emissions (short answer: not until battery prices become lower!). After the ERG Masters I plan to continue on for the PhD.

WILL COLEMAN: The last three years have been an amazing ride here at ERG and Berkeley. I came to Berkeley after several years working on renewable energy legislative advocacy in DC. At the time there seemed to be a lack of viable alternatives, and a need for people who could integrate the technology, business, and policy sides of energy. And so I came to Berkeley to become a cross-breed of sorts (ERG/Haas) and figure out how to get new cleaner innovations into the marketplace. Co-existing between the Haas and ERG worlds gave me an opportunity span multiple ERG classes (three!), and get to know an amazing cross section of people. In the process I got a chance to research solar applications in Mali, work in the wind industry, and examine a few of the finer points of algae fuels for my thesis. I also had the good fortune to work with some incredible people in starting the Berkeley Energy & Resources Collaborative, AccessBerkeley, and now the Center for Energy & Environmental Innovation. The process and the people at ERG, and Berkeley at large, have given me greater optimism that we can find solutions to these problems and that people like my fellow classmates are going to help make it happen. Now I am headed to work at a clean energy venture capital fund (MDV) that invests in inventors and startups that are trying to get their ideas into the market. Hopefully some of them will have the capacity to change the world. I look forward to seeing the impact that we all make over the coming years.

DEREK LEMOINE: With the great power of ERG comes great responsibility: our department entrusts us with the freedom to explore, but it also conveys the attendant responsibility to push ourselves. We have trouble explaining what ERG is because we make it every day. I entered ERG with ideas about mapping and modeling renewable energy resources, and after transitioning through research on plug-in hybrid electric vehicles, I finish the Masters degree with special interests in economics and climate change. ERG has a way of jostling sundry ideas around in our heads until something new and creative emerges. My Masters project centers around an idea of mine –

greenhouse gas property – that could only have come from such jostling, and the work of unfolding this idea drew me into externality theory, innovation incentives, option value, and institutional economics, all directions I could not have anticipated. The PhD should involve still more unpredictable paths. The ERG experience is also valuable for the people who form it: classmates, professors, staff, and the retiring Jane. I particularly value having shared kitchens with Andrew Mills and John the Stanley, and my most special “thank you mints” go to the bold Sintana E. Vergara and to my gloriously unpredictable family.

TIFFANY SHIH: In a recent conversation with ERG graduate Tiffany Shih, Tiffany described her time at ERG as not only a period of intellectual growth, but also “very much about becoming an independent person.” Perhaps the most important thing that she learned during her time at ERG is her realization that every form of advocacy relies on explicit or implicit assumptions which may lead to differential effects on equity and freedom. This realization has made her time spent at ERG even more valuable because the ERG community allows students to develop research independently, strengthening one’s own personal agency. Before coming to ERG, Tiffany imagined that she would continue along the same path she had pursued before. However, through exposure to a diverse community of students and teachers, she found the freedom to independently pursue a project altogether very different from the one that she proposed initially (as Alex said, “a very ERGie thing to do”). Tiffany’s future plans involve pursuing a PhD in Agricultural and Resource Economics where she is interested in studying the effects of commodification of natural resources on equity, freedom, and poverty. The funniest ERG moment was watching Carla and Derek compete in Dance Dance Revolution at the Albany Bowl. Tiffany would like future ERGies to know that being in the ERG program has been a valuable experience, that new students should take advantage of this opportunity to explore and not limit themselves, and that the best thing about ERG is the community. (Interview by Gabrielle Wong-Parodi)

SINTANA VERGARA: Spending two years at ERG is a little like winning a grant with the following stipulation: *learn as much as you can*. Like most of us, I came to ERG looking for ways to change the world, and I graduate now knowing that I am surrounded by people who do change it, every day. I have felt inspired by my professors, who each dedicate their time to researching pressing global problems, and somehow still have time to sit and talk with me about my ideas. I am impressed by my peers at ERG, whose active minds challenge me and whose humility teaches me. ERG has complemented my environmental engineering training with a multitude of perspectives from which to look at global environmental problems. Over the last two years, I have pursued research on the adoption and diffusion of household scale water treatment technologies that hold potential to expand access to clean water to the billion without. This topic – one I never could have imagined before beginning my studies here – has brought me to Bangladesh and Mexico, and has satisfied my desire to link environmental health with human health. What is clear to me after two years at

(Continued on page 5)

ERG is that I want to stay here, in this place of impassioned ideas and academic rigor. Perhaps even more memorable than the ideas that have sprouted here are the people I have met. In particular, I would like to thank Dr. Isha Ray, for being a wonderful professor and advisor. Jane Stahlhut, thank you for your kindness, wisdom, and the incredible support you give to every student here. Derek Lemoine, thank you for sharing with me and our class an amazing thirst for knowledge. To my family – my parents and brother – thank you for a wonderful life filled with love, learning, and positive action. And thank you to the beautiful Masters Class of 2007!

GABRIELLA WONG-PARODI: ...But before you tell yourself, “nothing’s more luxurious than that,” wait ‘til you hear about Gabrielle’s Swarovski-crystal encrusted life at ERG, where she was able to explore her interests and creatively pursue her own independent ideas. In addition to learning how to do interviews and work with and mentor other students, Gabrielle’s experience at ERG allowed her to continuously challenge her assumptions and gain further insight into the complexity of the world – a new view that, while at times challenging, provides her with a more realistic and effective outlook. Through her extensive work on public perceptions of carbon sequestration, she got the opportunity to discover California’s central valley where she fell in love with the community. In the future, Gabrielle plans to publish articles from her Masters project and will be continuing on to the ERG PhD. She is now interested in social movements and how advocacy organizations and the public dynamically influence each other. What did she think were the funniest ERG moments? “When Derek said ‘this is the *best* party I’ve ever been to’ [about the party at Tiffany’s house, emphasis added].” To future ERGies, Gabrielle encourages them to develop the skills they want and not be afraid to try new things or let go of things they no longer want to do. “Take advantage of the relationships that you make, ‘cause you’re going to make some really nice relationships,” she said, wearing that Gabrielle smile her ERG friends have grown to love. (Interviewed by Tiffany Shih)

Highlights of 2006/07

(see ERG’s website for more information)

Students

Matthias Fripp: This year I was awarded an EPA STAR fellowship, which will fund me through the end of my studies at ERG! I also finally finished an LBNL report and journal article on the effect of wind timing on value of electricity from wind farms, as well as a paper with Asher Ghertner, on the effect of international trade on U.S. environmental accounts (Ecological Economics). In August 2005, I attended an NCAR workshop on the WRF numerical weather model and began assembling a small high-speed computing cluster for my dissertation research. In September I presented my LBNL work at the annual conference of the U.S. Association for Energy Economics, and in April I visited the German Environment Ministry in Berlin to present work I had done with Dan Kammen and Kamal Kapadia, on the employment implications of renewable energy investments. I am now doing research for my dissertation, on the reliability of power from wind and solar generators dis-

persed throughout California.

Congratulations to **Eric Hallstein** and **Sintana Vergara** for being awarded National Science Foundation Fellowship (NSF) beginning Fall 2007. Eric received his Masters from ERG in 1997 then worked for a number of years returning to ERG in Fall 2005 to complete his degree goal of PhD. Sintana is receiving her Masters this year and will continue on in the PhD program.

Forest Kaser: In January 2007, I transferred into the Graduate Group of Microbiology, where I am working on ways of using microbes to clean up chlorinated solvents in groundwater. ERG provided me with a unique opportunity to explore interdisciplinary scholarship related to problems at the intersection of the environment, public health, social justice, and development. My experience in ERG will undoubtedly shape my thinking about these issues for years to come. Thank you to a very impressive group of students, faculty, and staff.

Michael Kiparsky: In a great and eventful year, the greatest thing has been parenthood: www.kiparsky.com/chloe.

In March Berkeley hosted its first ever Energy Symposium. The student led Berkeley Energy & Resources Collaborative (BERC) organized the event, led by the efforts of ERGies **Scott Zimmerman** and **Will Coleman**. The event attracted over 400 people from on and off campus to hear about the multitude of research being undertaken here at Berkeley.

Congratulations to **Kamal Kapadia**, recipient of the Chancellor’s Dissertation-Year Fellowship and to **Francisco Donez** and **Tracy Osborne**, recipients of the UC Dissertation Year Fellowship for the next academic year.

Scott Zimmerman: I was awarded the K. William Kolbe Law Student Writing Award from the American Bar Association Section on Public Utility, Communications, and Transportation Law Section for a paper titled: “Feds and Fossils: Meaning State Participation in the Development of Liquefied Natural Gas” The paper was also published in *Ecology Law Quarterly* last fall. I was also actively involved in the Cal Climate Action Partnership (CalCAP), and the initiative to reduce greenhouse gas emissions from the UC Berkeley campus. Our efforts culminated in Chancellor Birgeneau’s announcement, on April 27, 2007, that the campus would commit to exceed California’s greenhouse gas emission reduction targets by six years.

Congratulations to all the ERGies who worked so hard to pass the campus Green Initiative Fund, a student run initiative that will increase student fees by \$5 to fund sustainability projects on campus. The initiative passed, winning 69.25 percent of non-abstention votes cast. During the weeks preceding the vote, Sproul Plaza was a mass of green T-shirts with the logo VOTE TGIF.



Faculty

Congratulations to Professor **Richard Norgaard** who was one of three Berkeley faculty members to receive the 2007 Distinguished Faculty Mentoring Awards on April 27, at a ceremony jointly sponsored by the Graduate Council, the Graduate Assembly and the Graduate Division. Included in the photo are the other two recipients: Professors Christine Wildsoet (optometry) and William Taylor (history).

In addition, the following newsclips from Professor **Norgaard**: During this past year, I have been able to move my appointment fully into the Energy and Resources Group. I look forward to the increased teaching responsibilities within ERG. In December at the annual meetings of the International Society for Ecological Economics in Delhi, I received the Kenneth E. Boulding Award, the only honor ISEE bestows. I also had the honor of helping initiate the Berkeley William Sloane Coffin Award and chairing the committee that selected the first awardees. Robert Bellah of Sociology and Nancy Scheper-Hughes received the award during a gala ceremony on April 12. During the past year I lectured in Washington, D.C., Seoul, Canberra, Santa Rosa, Tokyo, Delhi, San Francisco, and Seville.

Alex Farrell, an Assistant Professor of Energy and Resources Group at the University of California, Berkeley, has been named to a new international panel of environmental, energy, economic and cultural experts to develop standards by which nations and consumers can judge biofuels and their impact on the environment and society. The Roundtable on Sustainable Biofuels aims to develop draft standards through a global feedback process by early 2008, in time for discussion at the annual World Economic Forum in Davos, Switzerland. Farrell said he hopes that the roundtable will "establish workable rules for sustainable biofuels, so that U.S. producers, both in California and the Midwest, can compete in energy markets without harming food supplies or the environment. It represents the next step past low-carbon fuels, towards truly sustainable transportation."

Daniel Kammen has had an active year. Some of his activities follow:

- he testified in front of the US House of Representatives Government Reform and Appropriations committees this year.
- he helped to develop the \$500 million Energy Biosciences Institute proposal, and now serves on the 5 person executive committee.
- he is working with Sir Richard Branson to develop zero carbon plans for remote islands, and entire small island nations.
- published (2 April Environmental Science & Technology)



on past costs and potential future costs of nuclear power.

- he gave the James Martin Institute Annual Lectures (3) at Oxford University, April 2007.
- Editor-in-Chief of Environmental Research Letters (erl.iop.org), an open access rapid publications (90 days from submitted paper to in print for accepted publications) journal covering the entire environmental field.
- he is working with the Cal Public Utilities Commission to develop a major climate change research and action center for California.
- he is set to speak and chair a session with Governor Schwarzenegger on his May 31 trade mission to Canada, specifically in a 1 day summit with the Governor and Canadian Prime Minister Harper in Vancouver.

Ashok Gadgil: The Chancellor's Public Service Awards recognize the outstanding contributions of faculty, staff, and students for individual and group commitment to civic engagement, research in the public interest, faculty leadership in service-learning, university-community partnerships, and positive community impact. This is the first annual event that combines service awards into a single celebration of the depth and breadth of the university's civic engagement. Prof. Ashok Gadgil will receive one of two Service-Learning leadership Awards.

John Harte: Former ERG student, **Scott Saleska**, and **Professor John Harte** were among the 16 authors of an Amicus Brief to the US Supreme that played a role in the recent case of Massachusetts vs. the US EPA. The brief presented to the Court the scientific case that global warming science is sound and that EPA regulation of CO2 emissions could reduce future harm to Massachusetts and other States. Saleska is now an Assistant Professor of Biology at the University of Arizona, Tucson.

On April 12, the George Polk annual awards in investigative journalism were presented in a ceremony at the Roosevelt Hotel in NYC. One of the 12 recipients was the UC Berkeley School of Journalism's radio documentary "Early Signs: Reports from a Warming Planet". The show, which reported on human impacts of global warming, was produced as a class project in a Journalism School course co-taught last year by **John Harte** and Sandy Tolan. They, along with the 11 students in the class, who traveled to Africa, Bangladesh, the South Pacific, the Arctic, and the Andes to prepare material for the show, attended the ceremony.

Isha Ray was part of one of two research groups chosen for a Richard C. Blum Center for Developing Economies award on practical solutions for the alleviation of global poverty. The research of Prof. Ray and her colleagues will focus on innovative technological, economic, cultural and public health approaches to sustainable drinking water solutions for low-income communities in South Asia, East Africa and Central America. Prof Ray has also played an active role in expanding the development teaching and research on campus this year, towards a new Minor in Global Poverty Studies and a proposed certificate program in Information and Communications Technologies for Development.

ERG Chair, **William W Nazaroff**, was named Associate Editor of *Indoor Air*, International Journal of Indoor Environment and Health. In February, he appeared on Dr. Dean Edell's syndicated show. He presented information about potential air pollution exposure issues from household cleaning products and air fresheners.

Lee Worden, S. V. Ciriacy-Wantrup Postdoctoral Fellow in ERG from Sept. 2005 - Dec. 2006, is now based in the Department of Environmental Sciences, Policy and Management, continuing his research, and is involved in organizing to stop the proposed grant from British Petroleum to create an Energy Biosciences Institute on the Berkeley campus.

Departmental News

Alumni

This year marks a milestone for the Energy and Resources Group—undergraduates can now get a minor in ERG. We all want to congratulate the three undergrads who have completed the minor:

Kate Tiedeman, Major: Conservation Resource Studies. Kate completed the minor in the Fall 2006 semester—the very 1st minor in ERG.

Nathan Kamphuis, Major: Physics. Nathan is completing his minor in the Spring 2007 semester.

Timothy Minezaki, Major: Environmental Engineering Science. Tim is completing his minor in the Spring 2007 semester.

CONGRATULATIONS TO YOU ALL!

This year ERG held a Freshman Seminar, “The Science, Technology, Regulation, and Politics of Air Pollution—a California perspective”, taught by **Robert Sawyer**, Chair of the California Air Resources Board and Class of 35 Professor of Energy Emeritus at CAL. The seminar examined current California air pollution issues including health based air quality standards and their attainment (which killed the electric car), growth eroding emissions reduction, motor vehicles that clean the air, and California’s role in addressing global warming.



The 12 students who participated in the course had the opportunity to visit AC Transit. They not only visited but had the opportunity to drive a hydro-fueled bus.



1980-1989

Ross Pumfrey (MA '83) his wife Liz, and his daughter Molly (now 14) moved into a new house in Austin, Texas in January 2006 that is the "greenest" home ever built by a production builder in the city (Austin initiated the country's first municipal green building program in 1991). Also in 2006, San Diego State University published a book Ross had edited, titled "The U.S.-Mexican Border Environment: Binational Air Quality Management." He continues to work in the Border Affairs office of the Texas Commission on Environmental Quality.

Andy Gunther (Ph.D. '87) has been elected to the Board of Directors of the Union of Concerned Scientists. He is currently Executive Director of the Center for Ecosystem Management and Restoration in Oakland, CA.

Linda Nash (MS '89) has recently published a book, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (UC Press, 2006). She is currently Assistant Professor of History at the University of Washington in Seattle.

1990-2000

Bruce Nordman (MA '90) writes: “(My) core research focus is now the intersection of energy use and digital networks—the consumption of the networks themselves, the effect on products of being networked, and what networking can do for energy efficiency in general. (<http://efficientnetworks.lbl.gov>)

Seth Zuckerman: (MS '90) After 4 years in Seattle — a move sparked by my wife's pursuit of a PhD in education at the University of Washington — we moved back this winter to Petrolia, on California's Lost Coast. I'm directing the Wild and Working Forests program for the Mattole Restoration Council (a local NGO), while my wife writes her dissertation and our two-and-a-half-year-old son explores the river, orchard, and beach with us. My most challenging project is crafting an "EZ-form" logging permit for light-touch forestry in our 300-square-mile watershed. I've taken a little sabbatical from writing, not long after the appearance of my story in *Sierra* "My Low-Carbon Diet," (Sept/Oct 2006), about my attempt to bring my CO2 emissions down to the level of the average human, done with the assistance of fellow ERGie Jon Koomey.

Nancy Kiang (MS '95) “This is not exactly energy news, but it's fun to share. *ERG Alum Figures Out Why Plants Are Green and the Color of Plants on Other Planets*. This was picked up by Reuters April 11, 2007 (among others):

<http://www.reuters.com/article/scienceNews/idUSN1121102320070411>

Karen Plaut Berger (MS '95) I have just been appointed chair of the Climate Change Task Force for the Town of Brighton, NY (a suburb of Rochester). We will be working on educational materials for the community, how the Town Code can encourage green building, and how the Town operations and facilities can reduce their footprint. If anyone has direct experience on these fronts, I'd love to hear from you!

Omar Marsera (PhD '95) An extremely fuel-efficient stove created and developed in collaboration with local women users in Mexico reduces fuel wood use by 60% and indoor air pollution by 70%. After only a month of use, the respiratory health of the women using the stove is said to have improved by 10%. The Mexican non-profit group Grupo Interdisciplinario de Tecnología Rural Apropiada (GIRA) with project leader **Dr. Omar Maser**a launched the stove project, which was the first prize winner in the category of Health and Welfare of the international Ashden Awards for Sustainable Energy based in London, UK. The prize is accompanied by £30,000 to further help expand the program to 8 more villages and 30 tortilla enterprises. GIRA will also continue improving promotional materials educating on the health and environmental impacts of the Patsari stove. About 95% of Mexican homes cook with open flame wood fires. Even the thousands of micro-businesses where the women make tortillas cannot afford to buy propane, which is promoted by the government as a cleaner fuel.

The Patsari is an improved version of an existing stove with more efficient combustions chamber, more durable materials, prefabricated metal chimney and hotplates and installation which prevents leakage of smoke back into the kitchen. About 3,500 Patsari stoves have been sold and about 70 are used in tortilla businesses. Training is provided for builders and for users who need to know how to operate and maintain the stove to keep its efficiency. Each stove has a serial number so GIRA can track quality and performance measures from monitoring of wood use, health indices based on blood tests before and after the use of the stove, indoor air pollution, and user opinions. Each stove saves about 2.3 tonnes of wood each year or 8,000 tonnes for all the stoves installed so far. Annual emissions of greenhouse gases are estimated to have been reduced by 10,000 tonnes.

Eric Martinot (PhD. '95) extends greetings to ERGies near and far. He has been living in Beijing the past two years as visiting professor at Tsinghua University. He teaches his own version of ER100 to both graduates and undergraduates, having them read some of the same materials as ERGies and understand his lectures in English (yikes, they even laugh at the jokes — the students' English skills are amazingly excellent). The university wants the courses taught the same as they would in the U.S. Eric even provides some "tricks of the trade" lectures to the students using his actual course notes from when he took "tricks" from John Holdren in 1991. Beyond that, he is researching renewable energy markets, policies, and futures, both globally and for China. He also writes annually the popular "Renewables Global Status Report" as a concurrent research associate of the Worldwatch Institute. (That report and all his publications, including information on renew

ables in China, are available at www.martinot.info, a site devoted to renewable energy that receives 4000 visitors per month)

Following the stern advice of illustrious former ERG faculty, he has continued to diligently publish in an attempt to remain academically respectable should he ever want a "real" faculty job. That diligence has led to over 60 publications since that very first ERG masters-project-turned-into-journal-paper in 1992 (Soviet-Union-turned-into-Russia). Amazingly, his ERG dissertation is still downloaded frequently. Launched out of ERG as a frequent-flying World Bank consultant in 1995, he also worked as scientist for the Stockholm Environment Institute — Boston before settling in at the Global Environment Facility in Washington DC for six years, until 2003. On the side he taught at the University of Maryland as an adjunct.

After all of that, a sabbatical was in order, and in late 2003 Eric took six months to walk the entire length of New Zealand, about 1600 miles (see www.martinot-nz.info/nztrek) before deciding in 2004 to move to China.

Living in China is no easy matter, actually a two-year learning curve. Little happens as expected, and extreme patience is sometimes required, but in the end things seem to work out just before the breaking point. The constant urban din and windy winters are worse than the expected air pollution, which is only intolerable during the summer smog when the sun doesn't appear for 6 weeks straight. Construction noise and dust are ubiquitous, as sometimes it seems virtually everything is being built, torn-down, rebuilt, or replaced in preparation for the 2008 Olympics. But the end results are grand and marvelous. A saving grace is that Beijing is a bicycling paradise, with most roads and streets having 5- to 15-foot wide bicycle lanes that keep the steady flow of bicycles, sometimes 5-abreast, separated reasonably well from the fast-growing traffic (some say 1000 new cars on Beijing's streets every day).

Eric has hoped to come back to ERG some time to share his career path with current ERGies, but alas, it has not happened. Students are welcome to correspond, but no promises to respond until next semester, unfortunately. Eric Martinot, Tsinghua-BP Clean Energy Research and Education Center, Tsinghua University, Beijing, martinot@tsinghua.edu.cn.

Rafael Friedmann (PhD '96) continues to work at PG&E, where he is now the Supervisor of the Strategic Research & Evaluation (SRE) group within Customer Energy Efficiency; as well as Chair of the California Measurement Advisory Council (CALMAC). SRE conducts a variety of research (market assessments/characterizations, process evaluations, program tracking and billing data analyses, and risk management) to help enhance the energy savings results of PG&E's portfolio of energy efficiency offerings (about \$400 million per year). CALMAC is both a meeting place for discussion of evaluation issues pertaining to California's energy efficiency programs and a web-based searchable depository of about 1000 studies carried out over the past 15 years.

Mark Stout (MA '97) has been hired as the San Joaquin Valley Manager of Community Government Relations by Cleantech America LLC, a San Francisco-based developer of utility-scale. Mark is a former Renewable Energy Consultant with the Union of Concerned Scientists and prior to that worked as a PUC Regulatory Analyst with the Office of Ratepayer Advocates where he developed policy proposals to mitigate the impact of rate increases during the 2001 energy crisis.

Navroz Dubash (PhD '98) has joined the Centre for the Study of Law and Governance at Jawaharlal Nehru University as an Associate Professor. He can be reached at ndubash@gmail.com.

Karen Warren (PhD '98) Our small, 100+ year old liberal arts woman's college decided to become co-ed starting this coming fall. This decision caused quite a brouhaha, but things have settled down. We're changing our name to Randolph College as of July 1. One of our recent graduates is now wandering the UCB campus as a grad student in integrative biology — Naomi Ondrasek, say hello if you spot her! Of course, I've encouraged her to take any ERG courses she can fit. We've just added a B.S. in environmental science here (our department is five years old now), and I am up for tenure next year. I am also serving as the chair of the City of Lynchburg's Natural Resources Advisory Committee. We just finished updating the storm water ordinance, and next on the list is encouraging the mayor to become a signatory to the Mayor's Agreement on Climate Change. Rest assured, Falwell will not convince our fair city that it's all a hoax. On the personal front — I married my sweetie, mathematician Marc Ordower, on a very happy day last June.

Thomas Sikor (Ph.D. in 1999) is back to Berkeley as a visiting scholar from April to June this year. He works with Jeff Romm, ERG affiliate and former Chair, on collaborative research about land use and livelihood changes in Southeastern Europe and Vietnam's uplands. He takes a leave from his duties at Humboldt University, Berlin to develop a monograph on Postsocialist Landscapes (a comparison of Albania, Romania and Vietnam) and help compile an edited volume on the transformation of Vietnam's uplands.

2001-2006

Elisa Derby (MA '01) is living in Boston, telecommuting to her job in DC as a Program Officer in Clean Energy for Winrock International. She and Ben Mahnke were married last spring, and welcomed Anna Joy Derby Mahnke into their family on 12/7/06, three weeks ahead of her due date. All are doing well and looking forward to seeing any ERGies who swing through Boston.

Phoebe Lam (MS '01) will be starting a new job on June 1 as an Assistant Scientist in the Marine Chemistry and Geochemistry Department at the Woods Hole Oceanographic Institution.

Matt St.Clair (MS '03) is a founding member of the board of directors for the new Association for the Advancement of Sustainability in Higher Education. Its membership has grown from 35 to more than 150 institutions in just its first year. Learn more at www.aashe.org and if you're in academia and your university is not a member, Matt encourages you to get your university to join!

Nathan Hultman (PhD '03) I have spent the past year at Oxford University, and was happy to see Dan Kammen when he visited to do a lecture series. I am planning to be back at Georgetown in the Fall.

Chris Greacen (PhD '04) In December 2006, the Thai government announced upgrades to key renewable energy regulations. The upgraded regulations require utilities to allow renewable energy generators up to 10 MW to connect to the grid. Utilities are required to purchase electricity from renewable energy generators at favorable rates including feed-in subsidy adders for specific renewable energy fuels. The regulations extend as well to efficient combined heat and power (CHP) generators. **Chuenchom** ('99) and Chris ('04) Greacen worked with the government and utilities to draft and upgrade the regulations.

Beth Zotter (MS '04) I'm excited to be moving back to the the Bay Area this summer after having spent the last 3 years in Puerto Rico. I'll continue working for Energetics, a DC-based consulting firm that does work for the federal government's energy efficiency and renewable energy programs. I'm looking forward to reconnecting with ERGies. I'll be stopping by soon to see what's new.

Chris Jones (MS '05) I've been hired as staff researcher at the Berkeley Institute of the Environment, a campus-wide initiative supporting multi-disciplinary research on targeted environmental issues. Current research themes include Energy & Climate, Sustainable Communities, and Ecosystems & Society. The Institute is co-directed by Dan Kammen and Inez Fung. Find out more at <http://bie.berkeley.edu>.

Jaquelin Cochran (PhD'06) and husband, Jonah Holmes, welcomed Joshua Ambler Cochran-Holmes in to the world on April 7, 2007!

William Golove (PhD '06) After 13 satisfying and productive years at the Lawrence Berkeley National Lab, I recently decided to leave the public sector in order to join the staff of Chevron Energy Solutions (CES). Having worked across the table from CES on a variety of projects over the last several years, I became convinced that CES is extremely well positioned to be successful in the evolving clean energy market. I am delighted to say that CES concluded I have something to contribute to their efforts and I began work as a Senior Project Development Manager at the end of September. Most of my efforts are focused on development of large scale renewable generation projects. If you would like to learn more about CES or if I can be of assistance to you in my new capacity, please do not hesitate to contact me.

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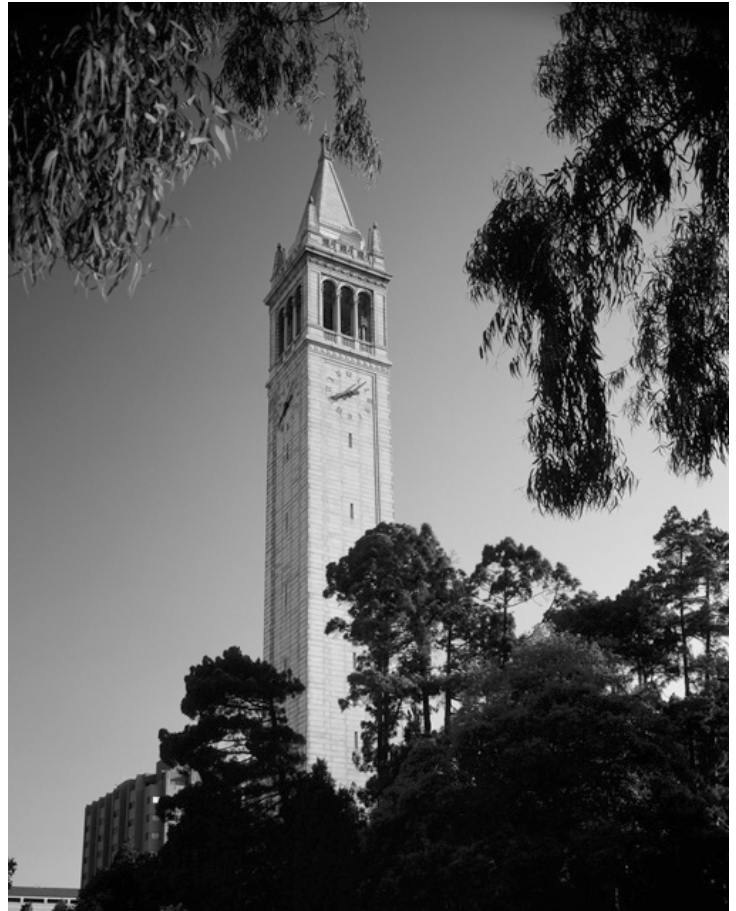
Further question may be directed to:

Energy and Resources Group

Management Services Officer

510/642-1640

ergdesk@berkeley.edu



Energy and Resources
Group
310 Barrows Hall
University of California
Berkeley, CA 94720-3050
<http://erg.berkeley.edu>