

Energy & Resources Group Commencement 2014

May 15, 2014

Doctor of Philosophy

Samuel Dalton
Borgeson

Ana Mileva

James Henry Nelson

Fermin Reygadas
Robles Gil

Master's Degrees

Tanya Dimitrova (MS)

Dimitry Michael
Gershenson (MS)

Jessica Joan Goddard (MS)

Pierce Edward Cornelius
Gordon (MS)

Lindsay Holiday (MS)

Alison Michelle Koppe
(MS/JD)

Benjamin Harris
Mandel (MS/MPP)

Diego Ponce de Leon
Barido (MS)

David Lee Puzey
(MA/MPP)

Emily Pond Quesada (MS)

Jessica Maureen Reilly
(MS)

Chayaporn (Fon)
Sangchote (MS)

Svetlana Zenkin (MS)

Undergraduate Minors

Rachel Chang
Xi Cheng
Zack Fischmann
Nikhil Gargeya
Judy Li
Kathryn Liu
Lianna Martin
John McQueeney
Arjan Sidhu

Congratulations ERG Graduates!

Pictured standing,
clockwise from top:
Dimitry Gershenson,
David Puzey, Hongyou
Lu, Yang Ruan, Emily
Quesada, Tanya
Dimitrova, Ida
Sognaes, Benjamin
Mandel, Pierce
Gordon, Chayaporn
(Fon) Sangchote, Peter
Alstone, Lindsay
Holiday

Seated left to right:
Jessica Goddard,
Svetlana Zenkin,
Jessica Reilly, Diego
Ponce de Leon



ERG Alum Astrid Scholz Addresses Grads



Dr. Astrid Scholz, President of Ecotrust, is an ecological economist by training, and received her Ph.D. in Energy and Resources from the University of California at Berkeley. Astrid has worked with Ecotrust for 11 years, serving as Executive Vice President in 2012. She previously served as Vice President for the organization's Knowledge Systems program, managing a variety of initiatives involving Ecotrust's analytical capacities, including pioneering work in developing innovative, collaborative, award-winning tools and approaches to improve environmental and economic decision-making.

Astrid is an affiliate faculty member of Oregon State University, and is the co-editor of a book on integrated geographic information systems, *Place Matters*. She serves on the boards of Habitat Media, Comunidad Y Biodiversidad (Mexico), and the Living Oceans Society (Canada). Scholz holds an M.A. in Economics and Philosophy from the University of St. Andrews, a M.Sc. in Economics from the University of Bristol.

ERG PhD Recipients



Samuel Dalton Borgeson

Architecture MS 2010
Energy and Resources MS 2009
Energy and Resources PhD December 2013
Dissertation Title: *"Targeted Efficiency: Using Customer Meter Data to Improve Efficiency Program Outcomes"*

It has been a singular honor and pleasure to be a member of the ERG community. I am humbled by the breadth of abilities, passion, intelligence, and generosity of the students, staff, and faculty. At ERG, I have learned that all work is impacted by biases and assumptions, but good work acknowledges and tests them. I have witnessed interdisciplinary research tackling some of the planet's toughest problems, been introduced to profoundly important work very different from my own, formed many lifelong friendships and working partnerships, and even met my wife, the ERGie formerly known as Merrian Fuller. As I leave behind my years of formal enrollment, I affirm that I am an ERGie for life.

Ana Mileva

Masters in Public Policy 2009
Energy and Resources MS 2010
Energy and Resources PhD 2014
Dissertation Title: *"Greenhouse Gas Emissions Reductions, System Flexibility Requirements, and Drivers of Storage Deployment in the Western North American Power System through 2050"*

I finally found an intellectual home here at ERG. I came to ERG from a social science and journalism background to move into fields such as engineering, economics, and operations research. Only at ERG could this transition be not only possible, but also welcomed and encouraged. Here, the experience of those of us who did not take a straight intellectual and academic path is appreciated and valued - and is in fact quite normal. ERG is a place to find one's own way in an environment that nurtures exploration, detours, change, and growth.

While I thrive on that, I wanted to thank all of my ERG friends for accompanying me on this wandering journey, in particular Jimmy and Josiah for helping me to not get lost along the way. ERGies have been a constant source of inspiration with their own wonderfully diverse paths and a rare combination of smarts, hard work, fun, and genuine kindness. I have made lifelong friends here who make me want to be a better person. I feel humbled and privileged to have been a part of such an extraordinary group of people.

Thank you, ERG.



ERG PhD Recipients



James Henry Nelson

Chemistry MS 2011

Energy and Resources PhD December 2013

Dissertation Title: *"Scenarios for Deep Carbon Emission Reductions from Electricity by 2050 in Western North America Using the SWITCH Electric Power Sector Planning Model"*

At the end of college, I had decided to go to graduate school for Chemistry but had yet to figure out what to study. The process of pouring through hundreds of descriptions of different research groups made me realize that I was excited about pursuing a career in alternative energy. This observation led me quickly to UC Berkeley's Chemistry program. Upon entering Berkeley, I took a class co-taught by Dan Kammen and materials science professor Eugene Haller about the physics, economics, and policy of solar energy. The physics of solar was fascinating and applicable to my research on nanoparticle solar energy conversion devices. I did not yet know that a seed of interest had been planted on the policy and economics

front, but over time I became increasingly interested in these parts of the solar energy story.

After finishing my Masters in Chemistry in 2008, I took a leap of faith into the ERG community. I knew little about the program, but was excited to work with Dan Kammen researching wind and solar integration into the power system. Despite the low information content yet high life importance of this decision, I'm happy to say that switching programs was one of the best choices I've ever made. I have found ERG to be a tight-knit, socially conscious community, much like my alma mater, Haverford College. Many thanks to the core team with whom I interacted - Josiah Johnston, Ana Mileva, and Dan Kammen - it would not have been possible without you. I've learned a ton from the entire passionate, diverse, friendly, curious, and awesome ERG community - thanks a lot!

What's next in life? I've started a postdoctoral fellowship at the Union of Concerned Scientists, where I am continuing as a power systems modeling nerd. I look forward to interacting with ERG students and alumni throughout my professional career.

Fermin Reygadas Robles Gil

Energy and Resources MS 2009

Energy and Resources PhD 2014

Dissertation Title: *"From efficacy to sustained use: A comprehensive evaluation of an ultraviolet water disinfection system for rural households in Mexico"*

Water touches most aspects of our life. As such, people in rural communities have come to value water through multiple dimensions. This stands in contrast with the narrow technical focus of many drinking water programs implemented in developing countries. Studying my Masters and PhD at ERG has allowed me to approach the field of water and development from an interdisciplinary perspective and to integrate my practice objectives into my dissertation research. I believe the combination of our interdisciplinary perspective and research-practice integration was the critical component that led our highly collaborative team to make meaningful academic contributions to the field of household water treatment and to develop a series of innovative, appropriate, and effective water programs for households, schools, and communities. Now that I am graduating and with support from an Ashoka Fellowship, I'll move to Chiapas to serve as Director of Fundacion Cantaro Azul with the goal of bringing these programs to scale in Mexico and beyond.

Throughout my studies at ERG, I was very fortunate to have the incredible support of Ljudmila Moran (my wife) and many other family members, including Fermin, Elena, Sandra, Fermin, Francis, Mariana, and Georgina. Without them, none of this would have been possible.



ERG Master's Degrees 2014

Tanya Dimitrova, MS

Master's Project: *"REDD Hot: How One Community Defends its Forest One Carbon Credit at a Time"*

When I first came to ERG I felt I didn't belong here. I thought I had to prove my worth to the professors and classmates. Soon after, though, I realized that my wonderful teachers were not there to judge me but to help me discover and become the best version of myself I could be.

I am grateful for the acceptance and guidance I've always received at ERG, for the life lessons and technical skills, as well as for the true friends I've made and I will keep in the years to come. Thank you for the wonderful trip.



Dimitry Michael Gershenson, MS

Master's Project: *"Increasing Private Capital Investment into Energy Access: A Case for Minigrid Pooling Facilities"*

"...read these leaves in the open air every season of every year of your life, re-examine all you have been told at school, or church, or in any book, dismiss whatever insults your own soul; and your very flesh shall be a great poem, and have the richest fluency, not only in its words, but in the silent lines of its lips and face, and between the lashes of your eyes, and in every motion and joint of your body." - Walt Whitman, preface to *Leaves of Grass*



When Dick Norgaard called me in March of 2012 and welcomed me to the ERG family, I did my best to sound remotely coherent and intelligible while I hopped in place and danced like a mad man. To me, ERG was a dream: a community where students could pursue their every interest, work with some of the top faculty in their fields, and enjoy all the benefits of being at the #1 public university in the world.

Today, ERG remains a dream to me, even though I have been living it for almost 2 years (and will continue to do so for another few). It is a dream not just because of the incredible faculty, staff, and affiliates that continue to inspire and amaze me, but also because of the fellow students that challenge and support me on a daily basis.

The community you find at ERG is unparalleled in the distance that fellow ERGies are willing to go for one another, and our cohort knows this truth as well as any other. I am incredibly grateful to all of you and I can not wait to hear of your adventures as you all work to change the world.

ERG Master's Degrees 2014

Jessica Joan Goddard, MS

Master's Project: *"California hydro-politics: the role of technology in the construction of stormwater value"*

I knew I wanted to come to ERG for graduate school in 2008 after venturing as an undergraduate into Energy and Society and Ecology and Society. As someone who has always sought understanding within the humanities and sciences, I didn't realize what I was looking for until I came into ERG. We are given the freedom to engage with every strand of thought that links to our core goals and values. The consequences are: a hub of budding intellectual endeavors, room to fail and fall, and no questions left untouched.

At ERG, I have been privileged to: do ecological field research with John Harte; work in India on wastewater irrigation under Isha Ray; sit in lab groups across campus in ERG, CEE, and ESPM; serve on the board of an ERGie's nonprofit; and help design a new ERG website with my peers.

My master's work focuses on representations of value and urban nature in California's water plans. I am fascinated to understand how we define and value environments, and what this means for our politics and collective morality. I suspect these tricky topics will keep me busy for years to come in my PhD at ERG. I am so grateful to the ERGie family for their inspiring work and big hearts. And of course, I wouldn't be here without the unconditional love and support of my awesome family.



All appears well as Prof. Dick Norgaard guides ERG students through turbulent waters....

ERG Master's Degrees 2014

Pierce Edward Cornelius Gordon, MS

Master's Project: *“Design Thinking for the Poor: A Comparative Content Analysis of Development Challenges in OpenIDEO”*

Pierce is a dual NSF Graduate Research Fellow and Chancellor's Fellow in ERG. His interests lie at the intersection of design thinking, product development, and impact analysis of products and services for the abject poor. Interests include Base of the Pyramid (BoP) inspired initiatives, technologies developed specifically to serve poor communities, user-centered design, participatory design and co-design methodologies, quantitative and qualitative impact evaluation metrics, user experience analysis, pro-poor business models, innovative pro-poor organizational structures, and political-economic structural barriers and techniques concerning successful pro-poor interventions.



He also serves as the president of the Black Graduate Engineers and Science Students, and on the Diversity and Social Media Committee of the Energy and Resources Group. Moreover, he serves as a member of the Development Impact Laboratory's Idea Team, which aims to develop an interconnected community of interdisciplinary researchers in international development issues at UC Berkeley.



Lindsay Holiday, MS

Master's Project: *“Renewable Energy Landscape of Indigenous Nations in the United States, Canada, and Australia”*

At the beginning, I was surprised that my motivations for coming to ERG were quite different than my cohort. And it has been a joy to learn all that inspires my peers to make the world a better place (we definitely all have that in common). It's been a constant adventure and challenge with classes, projects, and working together. This Group embodies many important values of community that makes me feel right at home. ERG life makes "staying in school" sound fun, cool and fresh. It has always been my life goal to share all my valuable experience and knowledge with others, and ERG has been a big part of that. Thank you!

ERG Master's Degrees 2014

Alison Koppe, MS/JD

Master's Project: *"Reduce, Reuse, Regulate: Repurposing the Clean Air Act to Limit Power Plants' Carbon Emissions"*

I feel so lucky to have been a member of this community for the past four years. ERG gave me the confidence to approach any unfamiliar course or topic that seemed intriguing and useful, and to keep faith that I could figure it out--even as I sat in Duncan's power systems class, wondering if this word "phasor" I kept hearing referred to something kind of like a laser, or a Taser. (Note to my mom: it doesn't.) I am leaving with a much fuller comprehension of our country's energy and water systems, as well as an appreciation of the many complexities that I still strive to understand.

As a joint degree student in an interdisciplinary program, at times no one (including me) really knew where I belonged. But I always felt at home at ERG. My fellow ERGies have inspired me so much with their curiosity, intelligence, commitment, and their open hearts. I know whatever work I do in the future will deal to ERG's students, faculty, and staff—to my affection for them, my loyalty to them, and my desire to live a life that would win their approval.



.... Although sometimes in graduate school, as in life, things don't always work out quite as planned....

ERG Master's Degrees 2014

Benjamin Harris Mandel, MS/MPP

Master's Project: *"Minding Electron Leakage: How Utility Regulation Can Improve Upstream Energy Efficiency"*

As soon as I set foot in Berkeley, I knew that ERG was where I needed to end up. I came to Berkeley with a fairly vague idea that I wanted to improve the environmental performance of energy systems. I'm leaving with an understanding that electric utilities are the implementing agents of energy policy, and that it's possible to shepherd them toward a cleaner future. That is precisely what I hope to work toward now, and I have ERG to thank for getting me this far. I am eternally grateful to have been selected as one of a stellar cohort of talented individuals. I have been consistently awed by the thoughtful approaches taken by my classmates to address the varied issues facing populations--human and otherwise--around the world. These issues are not small and they are not solved by a single paper. But this group has the compassion to identify the most pressing problems, the creativity to think of nontraditional solutions, and the dedication to carry solutions from concept to institution. Thanks to the ERG community for inspiring me to be a little more effective by being a little less traditional.



I am incredibly grateful for the years I've spent in and around ERG. I remain convinced it's the best graduate program on the planet to prepare people to face the foremost challenges of our time - mitigating climate change and building a sustainable economy... and yet it somehow maintains a remarkable sense of authenticity, humility, and community. The students, faculty, and staff have continuously inspired me with both their minds and their hearts, and indeed there must be very few places where people care so much about creating positive change for our world and are so capable of achieving it.

Haiku in honor of the Master's Cohort Presentations

Tanya
*REDD brings some money
without alleviating
global carbon harms?*

Dimitry
*Financing access
while mini-grid power plants
grow by the billions*

Pierce
*Collaborative
design thinking for the poor
humanizes things*

Lindsay
*Wind turbines blowing
over indigenous lands
but too slowly still*

Alison
*Markets for carbon
condense from the Clean Air
Act
but might evaporate*

Ben
*So much energy
lost in the transformations...
Let's make policies!*

Diego
*Oil, gas, and power
with capitalist meddling
Should be switched off now*

David
*Hey California!
T-O-U is B-F-D!
We can shave the peaks*

Emily
*Triple bottom lines
trace the path for factories
to unknown places*
Jess R.
*Rising Baja seas
expose humans to hazard.
I sail tomorrow!*

Fon
*A-P-A-E-C
for renewable power
cooperation*

Svetlana
*Fleets of cars and trucks
sucking fuel and spewing gas...
Step up corporations!*

Peter A.
*Leading our cohort
Lighting the way with research
Peter shines again
(thanks to Jess R)*

ERG Master's Degrees 2014

Diego Ponce de Leon Barido, MS

Master's Project: *"Beyond Oil: The Transition Towards a Low-Carbon Nicaraguan Grid"*

Thank you: Sun, for always being on time when I rarely am, California, for giving us surf, mountains, and walls to explore, UCMEXUS, for supporting me and my education, Nicaragua, for receiving me with open arms, Bob Marley, Manu Chao, Mozart, Albert Camus, and The Guide to the I Ching, for giving me serenity and wisdom where there is none, ERG, for your freedom, and for letting me explore, strive, and be, ERGies, for your inspiration, encouragement, and friendship, ERG faculty, for your leadership by example, Kay and Sandra, for your friendship and care, Dick, for debunking myths that have to be laid to rest, Dan Kammen, for believing that anything is possible, Duncan, for keeping it real, Pau (my sister), for her tireless pursuit of world changing dreams, Ma y Pa, for your unconditional Big love, wisdom, and support, and Kat, that without whom, nothing would ever be possible.



Awards: Center for Latin American Studies research travel award, PASI Water-Energy Management in Arid Americas summer fellow, National Geographic Energy Challenge Grant, and UCMEXUS fellow. Diego will be spending his summer doing research in Nicaragua, and later interning at IBM's Smart Cities lab in Nairobi, Kenya.

...and once in
a while we all
have to take a
dunking.



ERG Master's Degrees 2014

David Lee Puzey, MA/MPP

Master's Project: *"The Implications of Time-of-Use (TOU) Electricity Rates Upon California's Grid Load, GHG Emissions, Costs, and Potential for the Electric Space Heating and PEV Market"*.

I am incredibly grateful for the years I've spent in and around ERG. I remain convinced it's the best graduate program on the planet to prepare people to face the foremost challenges of our time - mitigating climate change and building a sustainable economy... and yet it somehow maintains a remarkable sense of authenticity, humility, and community. The students, faculty, and staff have continuously inspired me with both their minds and their hearts, and indeed there must be very few places where people care so much about creating positive change for our world and are so capable of achieving it.



My time at UC Berkeley has also unfortunately coincided with worst years of my life, starting with my sister's death my first semester and then the loss of other close family thereafter. These life events inevitably took toil upon my experience here, and I do inevitably wish I could have devoted myself more wholly to the bounty of amazing opportunities at ERG, and known people here as my happier, more innocent, former self. That said, in life as it is I still loved my time and the folks at ERG, and greatly appreciate all the amazing ideas, methods, and tools I have learned. I also am especially grateful to Kay Burns for her amazing understanding and care, and to Dick Norgaard for inspiring me to join ERG with his deep, unique perspectives, and for his mentorship. Lastly, I feel very lucky to have landed in such an awesome cohort, and know they'll all go on to do great things. Thank you ERG!!

Emily Pond Quesada, MS

Master's Project: *"An Evaluation of the Triple Bottom Line Business Case for Reshoring Manufacturing"*

"So long, and thanks for all the fish."



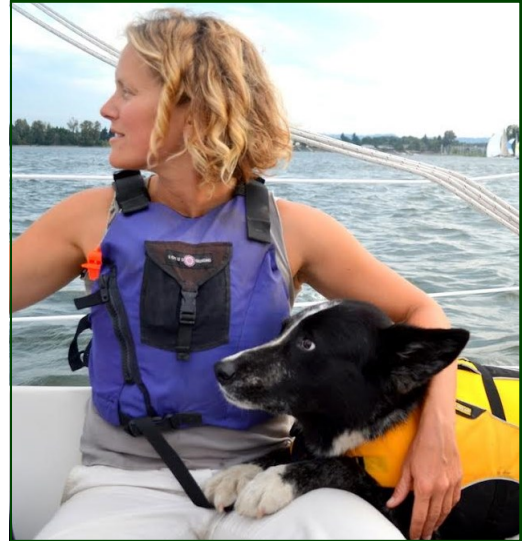
ERG Master's Degrees 2014

Jessica Maureen Reilly, MS

Master's Project: *"Mapping Coastal Vulnerability to Climate Change in Baja, México"*

I think ERG may be the only academic program on earth where I can say to professors in the tops of their respective fields, "I'd like to sail to Latin America and study coastal climate adaptation," and the reply is "Well, we have to figure out how to get you a boat." Such is the spirit of ERG, and it is this holistic sense of exploration, from academia to personal growth, that makes me feel incredibly lucky to be here. I have been inspired and supported daily by the faculty, staff, and especially the students, and it is through discussion, collaboration, and opportunities therein that my dreams have evolved into reality.

I came to ERG with limited technical background, and I can barely believe how much I have grown and learned in the last two years. But most importantly, I came to ERG with a dog that I loved, and we were both welcomed into this community with open arms and endless leftovers. ERG's compassion and friendship for both Keogh and me, during his life and after he passed away this spring, is what truly matters to me in life. Thank you.



Chayaporn (Fon) Sangchote, MS

Master's Project: *"Exploring the Impacts of ASEAN Energy Cooperation on the Renewable Energy Development and Policy Implementation of the ASEAN members"*

I can't believe that 2 years have passed! It feels like yesterday that I was still a newbie coming from Thailand and had no ideas what my life was going to be. Still remember the mix feelings of anticipation, excitement, and anxiety at the first time I stepped into the ERG community. As time goes by, I have found that the ERG community is pretty much unique and special in its own way. The interdisciplinary culture of ERG has significantly enhanced my vision and thoughts. I always feel motivated and enthusiastic to listen and share ideas with the cohorts. I am always grateful for their genuine friendship, helpful advice and the enjoyable moments during my time here at ERG. I am also very fortunate to have such amazing faculties and staffs who always take consideration in my personal development. Having a chance to be a part of the ERG community, even only for 2 years, is a wonderful opportunity for me that I will never forget.



ERG Master's Degrees 2014

Svetlana Zenkin, MS

Master's Project: *"Challenges and Opportunities for Corporate Fleet Transitions to Lower-Carbon Fuels"*

To the Newbies 2012 class:

After the endless around-the-circle introductions of our first week at ERG, I was well-equipped to summarize the education, experience and research interests of each one of you. Here is what I admire most about you after almost two years:

Ben: your equanimity, eloquence, and non-judgmental nature

Diego: your leadership and passion

Dimitry: your energy, intensity, and readiness to spring into action for others

Emily: your pragmatism and witty communication style

Fon: your quiet courage

Hongyou: your sense of humor, work ethic and humility

Ida: your straightforward manner and unassuming nature

Jess Goddard: your inclusiveness and ability to make others feel special and understood

Jess Reilly: your fearlessness and huge, open heart

Lindsay: your enthusiasm for activities and exploration

Peter: your ability to provide insightful answers to all my questions, and your lack of ego despite that

Pierce: your energy, your style, and love for technology and social media

Tanya: the combination of kindness and strong personality that makes you a force for good

Yang: your ability to project an "I don't give a \$@#%" attitude while being a deeply caring person at the same time



That first week, I didn't yet grasp why so many people call ERG a magical place. Now I do.



ERG Alumni News 2014

ERG Alumni Network Kicks Off!

This year, the ERG Alumni Network kicked off! With nearly 500 alums, the network aims to continue the sense of community and mutual inspiration that we experienced during our time on campus. Last October, our survey of alums found that 93% support the creation of an official ERG alumni organization, 88% would like to use an on-line directory of ERGies, 88% would like to attend local/regional ERG events, and 80% would like to attend an ERG reunion. So, we're doing all of the above, and more! Thanks to the wonderful ERGies who have stepped forward to lead teams - see list below.

Last fall, we kicked off the network with 85 alums & faculty at a happy hour event at Beta Lounge and this spring, ERGies packed Sibley Auditorium for the Annual Lecture. This summer & fall will see the roll-out of our new on-line ERG Directory - stay tuned for roll-out information and let Directory Leader Ben Mandel, MS'14 know if you would like to be a beta tester. And, mark your calendars for next spring's first-ever "Big ERG Event" - a reunion of ERGies from around the world here in Berkeley from April 9-12, 2015. To help with the Big Event, contact Big Event Leaders Deepa Lounsbury, MA'13 and Jim Downing, MS'00.

A few time-sensitive tips for those graduating today...There is a few-month grace period before your email account expires; you can remove your email from the Berkeley server during that time. (https://cal.berkeley.edu/help/faq/email_forwarding/)

If you register for @cal during that time window, you can keep your @berkeley.edu email address for forwarding, along with your new @alum.berkeley.edu address (<https://cal.berkeley.edu/>)



ERG alum reconnect at the ERG Annual Lecture

ERG Alumni Network Leaders:

President: Stacy Jackson, MS'08, PhD'12

Treasurer: Sam Arons, MS'07

Secretary: Debbie Cheng, MA'08, PhD'13

By-Laws: Bill Golove, MA'95, PhD'06

Big Event / Reunion: Deepa Lounsbury, MA'13; Jim Downing MS'00

Alumni Spotlight Editor: Sarita Sarvate, MS'78

Alumni/Student Directory: Ben Mandel, MS'14

Alumni/Student Mentoring: Ashley Muspratt, MS'06, PhD'09

Alumni/Student On-Campus Programs: Jess Reilly, MA'14

External Fundraising: Dave Stoldt, MS'82, Taylor Keep, MS'11

Conference Gatherings: Karin Warren, MS'92, PhD'98; Jo Seel, MS'12

Local Events - DC: Joanna Lewis, MA'01, PhD'05

Local Events - MA: Elisa Derby, MA'01

Local Events - CO: Garvin Heath, MS'02,

ERG Alumni News 2014

Sam Arons (MS '07) continues to work on renewable energy supply at Google. Since the last update he's worked on a 240 MW wind contract in Texas (<http://goo.gl/hY5bZQ>) and a new utility renewable energy tariff in North Carolina (<http://goo.gl/gwV4ky>). He continues to live in San Francisco with his wife Magali.

John Berger (MA '80) has published a new book: *Climate Peril: The Intelligent Reader's Guide to Understanding the Climate Crisis*. Synopsis: Can we avoid a climate catastrophe? How hot will the Earth get? How high will the seas rise? Can we afford to make the vast changes in our energy and land use to protect our climate? Can we afford not to? Climate Peril wrestles with these momentous issues and shows why climate change is deeply worrisome for civilization, humanity and the environment.

Jason Burwen (MA '11) lives in Washington DC and work at the Bipartisan Policy Center on federal policy promoting energy innovation--a mix of science/R&D policy and tax policy--as a means of addressing climate change. He has had the great fortune to run across a number of other ERGies there, and encourages folks to be in touch as they come through DC. He also this past year married his wife Ellie, who he met at Berkeley while he was at ERG (she was in the law school)--and they are happy to announce they are expecting a daughter in the beginning of the fall.

Rafael Friedmann (PhD '96) continues to work in the energy efficiency evaluation group at PG&E. In the past year, besides evaluating industrial and government partnership energy efficiency programs he has continued to engage in policy and evaluation discussions and advocacy. He also has given a variety of talks on energy efficiency and policy to visiting delegations from China, Korea, and Taiwan. Last Oct he was invited by two Chilean universities and a NPO to give a series of talks on energy efficiency. He will be a co-panel leader at the upcoming ACEEE Summer Study.

Chris Greacen (MS, '97 & PhD, '04) has published a new book: *From the Bottom Up How Small Power Producers and Mini-Grids Can Deliver Electrification and Renewable Energy in Africa*, by Bernard Tenenbaum, Chris Greacen, Tilak Siyambalapitiya, and James Knuckles.

Jonathan Mingle (MS '09) recently finished writing *Fire and Ice*, a book about the health and climate impacts of black carbon pollution, and promising solutions for cleaning it up - six years after first encountering the subject at an ERG colloquium talk by Professor Kirk Smith in 2008. The book (to be published by St. Martin's Press in January 2015) also tells the story of Kumik, a drought-stricken community in the Indian Himalaya engaged in building a whole new solar-heated village from scratch - which he also first encountered during his ERG days, while doing his masters project field research. He lives in Vermont, and is looking forward to turning toward non-carbonaceous-particle-related pursuits for a little while.

Nathan Johnson (MS '98) recently joined the US Department of State as a Foreign Service Officer. He is currently in long-term Mongolian language training in Washington, D.C. with plans to arrive in Ulaanbaatar this summer (which, by the way, is the proper season to arrive in Ulaanbaatar). He will be the Environment, Science, Technology, and Health officer at the US embassy.

Malini Ranganathan (Phd, '10), Garrett Fitzgerald (MA, '05), and their son Kiran have relocated to Washington, DC. Malini is an Assistant Professor at American University in the School of International Service. Garrett is the Strategic Partnerships Advisor for the Urban Sustainability Directors Network. Kiran is head of blueberry consumption and the imitation of animal sounds.

Amy Vierra (formerly Boone) (MS '06) was recently appointed Deputy Director of the California Ocean Protection Council (OPC). The OPC's role within California state government is to improve coastal and ocean management by coordinating state agencies and investing in innovative projects. Amy and her husband, Erik, also welcomed their second child, daughter Natalie, in August 2013.

Erika Walther (MA '99) recently made a mid-life career change, completing her M.S. in Ecology, Evolution and Conservation Biology from San Francisco State University (12/2013), where she studied avian malaria in California songbirds. She now works for Condor Country Consulting as a Staff Biologist.

ERG Faculty News 2014

David Anthoff

In January, 2014, ERG welcomed its newest full-time faculty member, Assistant Professor David Anthoff. David is an environmental economist who studies climate change and environmental policy. He co-develops the integrated assessment model *FUND* that is used widely in academic research and in policy analysis. His research has appeared in the *Journal of Environmental Economics and Management*, *Environmental and Resource Economics*, the *Oxford Review of Economic Policy* and other academic journals. He contributed a background research paper to the *Stern Review* and has advised numerous organizations (including *US EPA* and the *Canadian National Round Table on the Environment and the Economy*) on the economics of climate change. Previously he was an assistant professor in the School of Natural Resources and Environment at the University of Michigan, a postdoc at the University of California, Berkeley and a postdoc at the Economic and Social Research Institute in Ireland. He also was a visiting research fellow at the Smith School of Enterprise and the Environment, University of Oxford. He holds a PhD (Dr. rer. pol.) in economics from the University of Hamburg (Germany) and the International Max Planck Research School on Earth System Modelling, a MSc in Environmental Change and Management from the University of Oxford (UK) and a M.Phil. in philosophy, logic and theory of science from Ludwig-Maximilians-Universität München (Germany).



Professors David Anthoff and Isha Ray discuss environmental activist Sunita Narian's ideas at the ERG Annual Lecture.

Duncan Callaway

Duncan Callaway is an assistant professor in ERG. He teaches courses in electric power systems ("the grid") and energy efficiency in buildings. His research focuses on these topics as well. Right now he and his students are focusing on how to make the grid better equipped for wind and solar generation, and how in this era of "big data" we can identify energy efficiency opportunities without leaving the comfort of our own office chairs. His two favorite ERG experiences this year were chairing the admissions committee for the first time (and being extraordinarily proud of the class we managed to recruit), and seeing the second year masters students through a year of remarkable growth.

John Harte

At the Rocky Mountain Biological Laboratory, where I have been doing field research for the past 37 years, data from my long-term meadow warming experiment are revealing not just huge feedback effects on climate due to ecosystem responses in heated plots, but also similar, slower responses in the control plots: real global warming is catching up to experimental warming!

In response to my growing concern that the most pervasive and dangerous climate myth of all is the notion that reducing climate altering pollution will wreck the economy, this fall I ventured far from my usual teaching assignment. I organized and led a graduate seminar on climate communication. The product is a series of student-written documentaries ("Early Solutions") that portray groups who are taking first steps to reduce greenhouse gas emissions and at the same time reaping unexpected co-benefits such as cleaner air, tastier food, better health, and greater financial security. Our plan is to bring the reports to production stage and publish them in a suitable media outlet.

Finally, I presented to universities and institutes here and abroad new results and insights from an information-theoretic ecological unification that I and many ERGies have been developing over the past 6 years.

ERG Faculty News 2014

Harrison Fraker

There are two major highlights to Chair Fraker's academic year. The first is the publication of his recent book: *The Hidden Potential of Sustainable Neighborhoods—Lessons from Low Carbon Communities* (Island Press Sept 2013). The second is his selection as the recipient of the 2014 Topaz Medallion for Excellence in Architectural Education, the highest award given in the field, jointly by the Association of Collegiate Schools of Architecture (ACSA) and the American Institute of Architecture (AIA).

Daniel Kammen

Kammen has been appointed by UC System President Napolitano to serve on the President's Global Climate Leadership Council. His term will run from 2014-2016. The UC System has goal to remove fossil fuels from the energy portfolio of the entire system by 2025. Kammen has been active in examining and evaluating the potential to divest the financial portfolio of UC Berkeley from fossil fuels, with opinion pieces in *The Daily Californian* and *Yale Environment 360*: <http://www.dailycal.org/2013/12/03/uc-investments-fossil-fuels-hurting-planet/> and http://e360.yale.edu/E360_Comment_Why_the_Fossil_Fuel_Divestment_Movement_Will_Succeed.msp

In early May Kammen took part in the joint meeting of the Pontifical Academy of Sciences and the Pontifical Academy of Social Sciences meeting on Sustainable Humanity, which involved a meeting with Pope Francis. On Friday of the same week Kammen attended an energy and climate talk by President Obama in Mountain View, California. Photos attached. During April Kammen testified four times in front of California State Assembly and California State Senate hearings on the extension of California Global Warming Solutions Act (AB32) beyond 2020.

Kammen chaired the development of a Sustainable Research Network joint UC Berkeley - MIT Media Laboratory project on Sustainable Cities. He is also serving as the Co-Lead Scientist (with ERG PhD Sergio Pacca) of a joint US-Brazil supported Fulbright NEXUS program to support 20 environmental scholars for a two-year team exploration of sustainability across the Americas. Dan Kammen and Chris Jones' paper on the carbon footprint of US households and the associated interactive carbon maps: <http://coolclimate.berkeley.edu/maps> has been covered in many major newspapers, talk shows and radio programs, at one point hitting over 100,000 accesses and downloads per day. Kammen's work, with doctoral student Rebekah Shirley, on the problems of large-scale, deforestation and dam construction in Malaysian Borneo. cite: <http://www.sarawakreport.org/2014/04/top-us-study-score-is-the-worst-way-to-develop-sarawak/>

Catherine Koshland

Professor Cathy Koshland continued service to the campus as Vice-Provost for teaching, learning, academic planning and facilities. Major projects underway are partnering with LBNL on the Richmond Field Station campus; working on how best to leverage and integrate technology into teaching and courses; sponsoring the implementation of OE initiatives in advising and in the various technology developments to support student services; reconceptualizing support for faculty development around teaching and learning, and the undergraduate experience; and continued work on planning and implementing various facilities projects from Campbell Hall to Lower Sproul. On the research front, her research group has completed proof of principle work for a low-cost easily regenerated sensor for measuring mercury concentrations in air that could be deployed in support of a global mercury monitoring network. The group will continue to develop the design of the sensor over the next year. Other research is focused on ways to assess how differences in the built environment affect air quality and health through a study in several neighborhoods in Xi'an, China. She is delighted to have her three grandchildren in the Bay Area, and very pleased to have successfully completed the search for a new president for Haverford College, where she serves as Chair of Haverford's Board of Managers.

Isha Ray

Isha was appointed Co-Director of the Berkeley Water Center this year. She and her students continued to work on problems of safe and affordable drinking water access around the world, in India, Tanzania and rural China. She was a member of the UN's Expert Group on Challenges to Implementing the Millennium Development Goals for Women and Girls; she is also one of the invited authors working with UN Women to prepare the 2014 *World Survey on the Role of Women in Development*.

