

ERG

Energy & Resources Group

Commencement May 13th, 2016

Doctor of Philosophy

Danielle Christianson
Michael Cohen
Lara Cushing
Erica Newman
Daniel Sanchez
Michaelangelo Tabone

Master's Degrees

Ian Bolliger
Kathleen Epstein
Frank Errickson
Rachel Golden
Patricia Hidalgo-Gonzalez
Adrienne Marshall
Monkgogi Otlhogile
Joseph Rand
John Romankiewicz
Alana Siegner
Cecilia Han Springer
Emily Woods

Minor Degrees

Manda Au
Andrew Battaglia
Ryan Clark
Kia Fariba
Narayan Gopinathan
Elly Lin
Jennifer Liu
Nanavati Low
Niamh Murphy
Jeshua Silvers
Dafne Valdez



ERG Master's Graduates 2016

Top from Left: Rachel Golden (2017), Julia Szinai, Patricia Hidalgo-Gonzalez, Ian Bolliger, Alana Siegner, Joseph Rand, Frank Errickson, Emily Woods. Bottom from Left: Adrienne Marshall, Valeri Vazquez (2017), Monkgogi Otlhogile, Cecilia Springer, Kathleen Epstein.
Photo: Sharada CS

ERG Alum Lisa Micheli to Speak at Commencement

President/CEO, Pepperwood Foundation



Dr. Micheli has more than 25 years experience applying her technical, policy, and fundraising expertise to the design and implementation of ecological restoration, research and education programs. She completed her graduate studies at UC Berkeley as a NASA Earth Systems Research Fellow in 2000 and now focuses her research on relationships between climate, watershed health and biodiversity.

She co-chairs the Terrestrial Biodiversity Climate Change Collaborative (TBC₃), a Gordon and Betty Moore Foundation Bay Area climate adaptation research initiative, with UC Berkeley's Dr. David Ackerly.

She joined the Pepperwood Foundation in October of 2009 as its premiere Executive Director. Pepperwood operates a regional conservation science center nestled a 3200-acre nature reserve in collaboration with the California Academy of Sciences and Santa Rosa Junior College.

ERG PhD Recipients

Danielle Svehla Christianson

Dissertation: Fine-scale Environmental Variation in Mountain Landscapes: Quantitative Approaches, Influences on Tree Recruitment, and Implications for Scientific Visualization



It is difficult to express the gratitude I feel toward my fellow ERGies, ERG staff, and ERG faculty for the wonderful interaction over the past years. While we still face many challenges as a society, I am hopeful because of the conscientious and endlessly dedicated people of ERG. I've learned immensely from your collective expertise, compassion, and spirit. I am honored to be among you. Bolstered by the encouragement to seek cross-disciplinary scholarship, I hope to carry on the ERG mission to contribute to a better future for all Earth's inhabitants. I'm also grateful for the constant and loving support of my family and friends, who enriched the journey. Thank you!

Lara Cushing

Dissertation: Unjust Environments: Racial Inequalities in Environmental Exposures and Their Implications for Health



I am grateful for the freedom I've had at ERG to follow my own interests in sustainability and social equity, merge fields as divergent as environmental policy, critical race theory, and epidemiol-

ogy, and somehow come out with a dissertation in the end. I'm grateful to my dissertation chair Rachel Morello-Frosch and my committee members in far-flung departments: Kirk Smith, Allen Hubbard and Maggi Kelly. After I'd just jumped ship on a career in music, John Harte gave me early encouragement and inspiration to pursue my love of science. Thank you to Isha Ray for guiding me through my qualifying exam and welcoming me into ERG's Water Group despite the fact that I didn't work on water. Dick Norgaard helped cultivate ERG as a home for dissidents and rule breakers. That's what drew me to ERG, and I hope that culture endures. I look forward to staying engaged with ERG as I move across the Bay to join the faculty at San Francisco State University.

ERG PhD Recipients

Michael Cohen

Dissertation: Power System Simulation for Policymaking and Making Policymakers



I will always be grateful to ERG for taking me seriously as an engineer without an engineering degree, for opening my eyes to a community working on amazingly diverse approaches to solving incredibly pressing problems, and for supporting me wholeheartedly when I decided that making a video game was going to be a central part of my PhD. It is truly difficult to imagine any other program providing support for (and even celebration of) the breadth of my work in the way ERG has. I am especially grateful to my committee for their guidance on this journey, to my fellow students for believing in me and giving me something to believe in, and to Laura and Flint for helping me see this through even when it was difficult.

Erica Newman

Dissertation: Disturbance Macroecology: an Information Entropy Approach for Cross-System Comparisons of Ecosystems in Transition



How wonderful it has been to be part of ERG. Graduate school has not only been a chance to conduct research in wildfire, biodiversity and ecological patterns, it has also been a framework for incredibly interesting life experiences. My ability to conduct field work in U.S. National Parks and other public lands, and in French Polynesia,

Costa Rica, and Japan through international collaboration have all been possible because of my research connections with ERG and UC Berkeley. The first years in ERG of coursework, reading, and brainstorming feel very different to what this group has become more recently for me: a springboard into the complex world of biodiversity conservation both in and out of academics, and an opportunity to participate in shared governance with some of the most interesting and talented people I have met. I want to thank all of the professors of ERG for the support they gave in so many ways, through sheer intellect, clarity, and ability to collaborate that is an inspiration to all of us; and ERG's students, who sincerely attempt to change something in this world for the better by reaching across disciplinary divides. I also want to thank all of these people for being my friends.

ERG PhD Recipients

Daniel Sanchez

Dissertation: Deployment, Design, and Commercialization of Carbon-Negative Energy Systems



I entered ERG an ambitious, callow, and excitable engineer. I chose ERG for its interdisciplinary approaches to sustainability, innovative coursework, and

community of scholar-activists. Upon reflection, I've left ERG with similar character, but with a greater sense of humility: I now understand that diversity creates value, that optimal solutions exist only on paper, and that social and political systems should be engaged rather than eschewed. To me, humility is the hallmark of an ERG education.

At Berkeley, I've focused both on quantitative approaches to energy policy, and the "soft skills" of management and strategy. Along the way, I've discovered new ways to reverse climate change, helped lead multi-

disciplinary teams, and learned the value of science in catalyzing action. More importantly, I've learned that free international travel can justify any research project, beer and burritos are the primary drivers of collaboration, and that confidence can substitute for knowledge, but only in the short term. I thank my outstanding advisors, colleagues from RAEL and BERG, and friends at Berkeley, many of whom have also served as academic and personal mentors. Finally, I thank my family, Christine, Israel, and David, for their support during my graduate studies.

Michaelangelo Tabone

Dissertation: Leveraging New Data for Renewables Integration and Energy Efficiency



I came to ERG to train in energy policy, and am leaving it a statistician. But I don't think that I've performed the about-face that this implies. Energy systems are transitioning from fossil to renewable resources at the same

time that our ability to collect and communicate data is increasing at a revolutionary pace. My research focuses on areas where new data can help us understand and facilitate energy efficiency and the transition to renewable energy. In my career, I hope to continue evaluating where data can--and can't--aid in the creation of reliable, efficient, and sustainable energy systems.

There are too many people to thank for making my experience in graduate school so fulfilling: my family for letting me live on the left coast for the past six years; my friends in the Bay Area for being my companions and aiding me through many

moments of self-doubt; my collaborators, Peter Alstone, Sam Borgeson, Mark Dyson, Christoph Goebel, and Emre Can Kara; and of course, my advisor, Duncan Callaway--whose patience and concern I cannot claim to have deserved.

Finally, I would be remiss not to thank the entire Energy and Resources Group (ERG). ERG is bound by a profound sense of purpose to create research that does good for society and the environment. This community has been an irreplaceable element of my education, and I will continue to be inspired and motivated by my fellow "ERGies" wherever my career takes me.

ERG Master's Degrees

Ian Bolliger

Project: Geographically Weighted Regression: Uses and Limitations for Improving Statistical Snow Depth Predictions Using Terrain and Vegetation Features in the Tuolumne River Basin



Two years down, and I could not have imagined everything that I have learned at ERG thus far - like, for instance, how valuable a

single fork can be in a communal kitchen. Nor could I have imagined how much I would realize I haven't learned — like who Cathy Koshland really is. Honestly, ERG has pushed and pulled me in ways I would never have expected and I am tremendously grateful for the freedom, the opportunity, and even the frantic pace of pursuing your interests before you know what they are. It's been a tremendous ride and I'm thrilled to keep it going for a few more years.

To the graduating ERGies from our cohort: I can't believe the time we spent together is already coming to a close. It really does seem like just yesterday when we spent the day in the Shasta room getting to know each other and learning all of the ins and outs of ERG that we

promptly forgot. I'm going to miss both the serious and the innocuous conversations we've had but am hopeful that we'll be reconnected before too long. Jerome, I will miss you most of all. I truly enjoyed all of your thoughtful contributions throughout our time here.

To those that are sticking around: I'm incredibly excited to see what will come out of the remainder of our time at ERG. I'm truly blown away on almost a daily basis by the brilliance, thoughtfulness, and kindness that you all bring to our group on a daily basis. Maybe, just maybe, I can get some of that to rub off on me.

So long graduates! And for the rest of you, sorry - you're stuck with me for a few more years.

Kathleen Epstein

Project: Stakeholder Perspectives on Interagency Collaboration in Greater Yellowstone



*Be like the fox
who makes more tracks than necessary,
some in the wrong direction.
Practice resurrection.
- Wendell Berry 1973*

For me, ERG has been a journey of making and remaking and I'm grateful for those who have had a hand in the process. Thank you to all the ERG faculty and staff and especially to Isha Ray, Duncan Callaway, and John Harte who asked hard questions in supportive ways so I could create work I'm proud of. Thank you to my cohort and fellow ERGies who amaze me with their deep passions, heartfelt curiosity and genuine care for both one another and the planet. And I'd be nothing without my support networks: Mike, Mom & Dad, Elicia & Beck. ERG has helped me grow in ways I could not have predicted. I leave inspired by the power of communities, working together to make this world better tomorrow than it is today.

ERG Master's Degrees

Frank Errickson

Project: Uncertainty and the Social Cost of Methane Using Bayesian Constrained Climate Models



Thank you to all of my classmates, professors, and staff at ERG. Never before have I been surrounded by such an intelligent and creative group of people looking to make the world a better place.

Patricia Hidalgo-Gonzalez

Project: 2030/2050 Power System Planning Path Dependency in the Western U.S.



For different reasons I feel very grateful for being part of ERG. One of the main reasons that made me

want to join ERG was their hope of building a sustainable and just society. However, not too long after I joined I realized that ERG was even much more than that. ERG is a beautiful, brilliant and diverse community of individuals who will support you academically and emotionally. I feel very grateful for the support provided by Dan Kammen, Isha Ray, Kay Burns and Julia Szinai when times got challenging. I would also like to thank the senior ERGies who have been my mentors (and friends!) in this journey: Juan Pablo Carvallo, Josiah Johnston, Ana Mileva and Diego

Ponce de Leon Barido. And special thanks go to all the ERGies for making this community inclusive and supportive.

Finally, thanks to my mom for all her efforts in prioritizing my education and as a result allowing me to be here. Thanks to Alex for being so caring and supportive through hard times.

I look forward to my next years in the Ph.D.! I know it will be challenging, but at ERG I believe we have the best team to go through it!

Rachel Golden

Project: Achieving Long-Term Climate Goals in the U.S.: Unlocking the Potential of High-Efficiency Electric Technology in Our Homes and Buildings



Here's to ERG! The semesters have flown by with ample challenging problem sets and back-of-the-envelope calculations, a growing multitude of inside jokes with fellow ERGies, weekly emergency trips to get fro-yo before study groups, the perfect frequency of puppy pictures snuck into students' Master's Project power points, and the right balance of opportunities to be humbled and to shine.

I want to especially thank the women of ERG (both staff + students) for being so down-to-earth and collaborative; for forbidding unnecessary apologies; for challenging instances of "imposter syndrome;" and, for the overall solidarity, understanding and love.

ERG is a truly special place, and I'm grateful that it is a lifelong club.

ERG Master's Degrees

Adrienne Marshall

Project: The Phenology of Wilderness Use



I never expected to learn so much in so little time! In the past two years at ERG, I've learned a whole new set of skills and knowledge - but more than that, I've learned what I don't know and what I want to learn. I am grateful to the ERG faculty and staff for their mentorship and guidance, and to my fellow students for the camaraderie, support, fun, and encouragement. Most of all, I am grateful to Darren, who gave as much to this thing as I did.



Monkgogi Otlhogile

Project: Evaluating the Impact of Grid-Based Electricity on Rural Welfare in Botswana



Joining the Energy and Resources Group was a goal I thought was unattainable and being surrounded by diverse and extraordinary people has been the greatest intellectual experience of my life. From weekly problem sets to actually finishing my Master's project, I know none of it would be possible without the support of each one of you. There are no words that could fully express how thankful I am to each member of the Energy and Resources Group. Faculty, staff, alumnae, students and my beloved cohort have taught me many lessons about interdisciplinary, work-life balance (or not!), community, and how to truly own the esteemed title of "ERGie". As I begin my journey back to Botswana, I want to thank every single ERGie for being a friend, a mentor and a family I can always count on.

ERG Master's Degrees

Joseph Rand

Project: Environmental, Economic, and Social Trade-Offs of Hydropower Relicensing



Amazing how two years flew by. I vividly remember being a wide-eyed newbie - inspired, excited, anxious, and overwhelmed by ERG! But these years surrounded by the best and brightest scholars in energy and resources have kindled my intellectual curiosity and commitment to sustainability, and I find myself emerging as a

confident researcher, proud of the path I am on. I am deeply grateful to the ERG community for guiding me on this path. Special thanks to my cohort - you guys are incredibly talented, hilarious, and delightful to be around.

Academically, what I loved about ERG was: (1) the opportunity and encouragement to identify the environmental problem I care most about, and (2) the intellectual foundation and community of support to answer the hardest questions I could identify relating to that problem. In my case, that meant I could combine my passions for clean energy and healthy flowing rivers into a meaningful research project that I truly enjoyed working on.

But we all know ERG is much more than an academic institution. What I'll miss most is the friendship, camaraderie, support, inspiration, and laughter from my fellow ERGies. I'm so glad that I get to be a part of this community for life.

John "Susty" Romankiewicz

Project: Policies for a Sustainable Community Solar Sector



ERG is a beautiful community and one that I have been lucky to have been a part of. I want to thank all of the staff and faculty for always striving to improve ERG. I want to thank the upper-classmen for their guidance and wisdom; they are true interdisciplinarians - shining examples of

what ERG seeks to mold in its students. Thank you to my classmates (newbies 2013 and 2014); it's been humbling to have been on this path with you, and your friendship is so valuable to me. Shout out to my fellow MS/MPP dual degree students -- the struggle is real but we are all the wiser for it. I suppose we have two eightfold paths to follow...good luck!

I want to thank all ERG students who have contributed to BERG, UC Berkeley's student-run effort at creating a long-lasting campus wide community of interdisciplinary learners. Thank you especially to Dan and Jessie for your commitment and hard work to sustain and grow that community.

Most of all, I want to thank my family for the support, encouragement, and inspiration they have provided me. If all else fails, I always know I'll have my family behind me to help me "make it happen"!

ERG Master's Degrees



ERGies go to Bolinas



ERG 2016 Master's Graduates

Alana Siegner

Project: Farm to School Programs and Environmental Literacy in the San Juan Islands



*"You are the daughter of the sea, oregano's first cousin.
Swimmer, your body is pure as the water.
Cook, your blood is quick as the soil.
Everything you do is full of flowers, rich with the earth."
Sonnet XXXIV, Pablo Neruda*

I came to ERG as a teacher. I am still a teacher, but I am also a student—of sustainable food systems and climate change, science communication and social justice. After two years here, I am confident that there's nowhere else I could have gone to study that would be so embracing of my interdisciplinary interests. I am grateful on a daily basis to have found myself in such an inspiring, interesting, challenging, compassionate, and intelligent community of faculty and fellow students. After opening a lot of doors in my Master's project work on farm to school programs and environmental literacy, I am excited to walk through them as I continue on to the Ph.D. Thanks to the brilliant ERG faculty for your guidance in Master's Seminar or in passing through your office; thanks to my wonderful cohort for your support, laughter, and advice whether inside ERG or up in hills and trails around Berkeley; and thanks always to my amazing family for your love, words of wisdom, and visits all the way out here on the West coast.

ERG Master's Degrees

Cecilia Han Springer

Project: Mining Modernity: Energy Limitations and Opportunities in Vietnam's Aluminum Industry



In just two years, ERG has opened my mind to a vast new landscape, wide and yet filled with infinite detail for those who want to delve. Going forward towards my PhD at ERG, I intend to delve deeper - yet I feel that I have already learned so much from classmates and curriculum. ERG offers intellectual freedom to the curious souls who burst through its doors, and invites us to shape the community like nowhere else. Thank you to my ERG professors and classmates for entertaining my stubborn, wild ideas throughout these years. ERGies have taught me to garden, to cook, to question, to sort my waste properly, to share, to dab, to implement fixed effects linear models, to laugh. I hope to continue on with a humble mind enriched by the curious and tenacious spirit of ERG.

Emily Woods

Project: Impacts of Student-Led Service Learning Water Project in Rural Cameroon



ERG was recommended to me as “the place to go to get where you never planned to go.” And I don’t think they could have been more right. I came in with a clear focus of my work: how I approach the problem, methods required to get to a solution, and a really clear goal of where I

thought I was headed. And thanks to ERG that all has been smashed to pieces; and I couldn’t be more thankful. My classes, my peers, my professors have all expanded my perception of the world and issues we all are working to solve. I think I have more questions than answers now, more skepticism of what is possible and more doubt of what I am able to achieve. And yet, I feel more empowered than ever to use these limitations to approach problems from a much more realistic baseline and to be able to potentially ask the right questions as I move forward in any endeavor. At least now I have an idea of all the things I don’t know. I have been humbled, confused, and frustrated a lot these past two years and believe that nothing could have been better for me.

Shout out to row 3 for never-ending support in the form of hugs, high-fives, snacks, and beers in the office. Don’t think I could have done it without y’all.

Awards and Fellowships

AAAS Mass Media Science and Engineering Fellowship

Sasha Harris-Lovett

AREVA

Anne-Perrine Avrin

ASUC Academic Opportunity Fund Award

Ian Bolliger

BECAS Chile Fellowship

Felipe Castro

Juan Pablo Carvallo

Berkeley Fellowship

Ian Bolliger (deferred in favor of NDSEG)

Anna Brockway

John Dees

California Energy Commission/All Power Labs Grant

Anne-Perrine Avrin

Jose Daniel Lara

Chancellor's Fellowship

Nkiruka Avila

Charles K. Birdsall Fellowship

Ian Bolliger

Zoe Chafe

Katie Epstein

Kripa Jagannathan

Veronica Jacome

Seiji Karasaki

Morgan Levy

Niklas Lollo

Sophie Major

Daniel Sanchez

Subir Chowdhury Graduate Fellowship

Yoshika Crider

Computational Science Graduate Fellowship

Richard Barnes

CONACYT

Diego Ponce de Leon

Data Science for the 21st Century Program (NSF NRT)

Ian Bolliger

Frank Errickson

Elias Lazarus

Niklas Lollo

Valeri Vasquez

DIL Innovate Grant

Diego Ponce de Leon

Energy for All

Rebekah Shirley

Environmental Protection Agency STAR Fellowship

Lara Cushing

Imran Sheikh

Alex Farrell Memorial Fellowship

Pierce Gordon

Veronica Jacome

Sophie Major

Adrienne Marshall

Fernström Fellowship

Jessica Goddard

Foreign Language and Area Studies Award

Chris Hyun

Future of Transportation Student Competition

Alana Siegner

National Go Solar Foundation

Noah Kittner

Graduate Division Dissertation Year Fellowship

Erica Newman

Graduate Opportunity Award

Dennis Best

Graduate Division Summer Grant

Sharada CS

Jessica Goddard

Christopher Hyun

Morgan Levy

Graduate Division Parent Grant

Elias Lazarus

Graduate Training in Cooperative Extension Program

Adrienne Marshall

Kripa Jagannathan

Alana Siegner

Hellman Graduate Award

Yoshika Crider

Morgan Levy

Michaelangelo Tabone

HydroPower Research Foundation Award

Joseph Rand

Institute of Current World Affairs Fellowship

Jessica Reilly

Institute for German & European Studies

Jessica Goddard

InterAmerican Development Bank Energy Ideas Competition

Diego Ponce de Leon

ITRI Rosenfeld Postdoctoral Fellowship

Ranjit Deshmukh

Link Foundation Energy Fellowships

Ranjit Deshmukh

Diego Ponce de Leon

National Defense Science and Engineering Graduate Fellowships

Ian Bolliger

National Science Foundation Graduate Research Fellowships Program 2015-16

Nkiruka Avila

Richard Barnes (declined in favor of DOE CSF)

Anna Brockway

Michael Cohen

Rachel Golden

Jessica Goddard

Pierce Gordon

Patricia Hidalgo-Gonzalez (deferred)

Veronica Jacome

Noah Kittner (deferred)

Morgan Levy

Erica Newman

Laura Moreno

Daniel Sanchez

Laura Schewel

Froylan Sifuentes

Cecilia Han Springer (deferred)

Emily Woods

Grace Wu

NSF GRFP New Awardees 2016-17

Yoshika Crider

Ezekial Hausfather

John Dees

NSF GFRP Honorable Mention 2016-17

Jessica Knapstein

Sophie Major

Albert Newman Fellowship

Anna Kantenbacher

Outstanding Graduate Student Instructor Award

Lydia (Smith) Vaughn (ERG)

Frank Errickson (Business)

Arthur Rosenfeld Award for Energy Efficiency

Veronica Jacome

Noah Kittner

Siebel Scholars Fellowship

Ranjit Deshmukh

Robert and Patricia Switzer Foundation

Rachel Golden

Joseph Rand

Systems Approach to Green Energy – Integrative Graduate Education and Training Fellowship (NSF NRT)

Noah Kittner

Cecilia Han Springer

U.S. Aid Water Management Award

Sharada CS

GROUP PROJECTS

California Energy Commission EPIC Grant

Anne-Perrine Avrin

Jose Daniel Lara

Tiny House in My Backyard Project

The Green Initiative Fund (TGIF)

Chancellor's Advisory Committee on Sustainability Award (CACS)

Ian Bolliger

Imran Sheikh

Alana Siegner

Valeri Vasquez

Emily Woods

ERG Alumni News 2016



Connect with
ERG Students,
Alumni, Faculty,
and Affiliates
@ ERGIES.ORG

It's been another big year for the ERG Alumni Network (ERGAN)! Per alumni feedback from our first Big Event in 2015, we've established the Ask-an-ERGie forum (subscribe at ergies.org), as well as the new Intellectual Networking team to connect ERGies with webinars and discussion groups, led by Denis Sarigiannis (MS'90). We also successfully completed our first leadership transition – many thanks to Stacy Jackson (MS'08, PhD'12), ERGAN founder and outgoing President, for her inspiring leadership, and thanks to all outgoing members of the Board and Leadership Team for their service and dedication. Coming up this year, keep an eye out for alumni-student interactions led by Niklas Lollo (current student), ERG fundraising headed up by Jason Anderson (MS'98), further improvements to ergies.org & communications spearheaded by Tanya Dimitrova (MS'14), and alumni events led by... TBD (could it be you? ;) We also welcome our new Officers, Sam Arons (President, MS'07), Stacy Jackson (Treasurer), Maria Murmis (Secretary, MS'93), and Dan Sanchez (Special Projects Officer, MS'13, PhD'15), as well as all the new members of the Leadership Team. Finally, a reminder that ERGAN voluntary dues of \$10/yr are due on June 30th through ergies.org; this is what makes ERGAN's programming and the ergies.org platform possible. Looking forward to another great year ahead!



ERGies at dinner with Professor John Harte

ERG Faculty News 2016

David Anthoff

Assistant Professor

During the last year, David Anthoff once again taught a course on the economics of climate change and the ERG master seminar. His research focuses on climate policy, and how the tools of economics can be used to inform climate policy design. He builds integrated assessment models of climate change, and asks how distributional equity considerations can be incorporated into cost-benefit analysis of climate policies. His lab continues to grow and is now comprised of a healthy number of ERG master and PhD students and post-docs. Last, but not least, his second daughter Theodora was born in the fall.



Duncan Callaway

Assistant Professor



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. A few updates from this year: He will serve as PI on a few new large projects; one involving multiple national labs and industry

to build new tools to manage low voltage distribution systems with lots of photovoltaics and electric vehicles; another based at UC Berkeley that seeks to make power systems more flexible in the face of variable production from wind and solar generation (it should be noted that ERG PhD students played crucial roles in securing these grants). He again chaired ERG's admissions committee with Grad Affairs Officer Kay Burns' indefatigable assistance, and he led a rousing rendition of Twinkle Twinkle Little Star at his daughter's violin recital.

ERG Faculty News 2016

John Harte

Professor



At the 2015 annual meeting of the Ecological Society of America in Baltimore in August, John and 14 current and past members of the

“Harte Lab” turned out in full force, contributing a total of 15 oral and poster presentations to the conferees. Other work-related travel this year included lectures and collaborations with colleagues in DC, Harvard, U. Mich., The Santa Fe Inst., U. MD and a conference in the Swiss Alps. During 2015-16, he conducted research and wrote a variety of papers (published in Nature Climate, PNAS, Ecology Letters and other journals) on topics ranging from food security to global warming impacts on ecosystems to a theoretical unification of macroecology and evolution.

Guiding graduate student research taught him about many other topics as well. In Fall 2015, he taught a Freshman Seminar on big data and complex systems, and also his graduate level course in advanced mathematical modeling methods; in Spring 2016, he taught my Spherical Cow course for the 35th time; the material, ever updated, continues to be fascinating. Despite circulating rumors, he has no retirement plans, though he is thinking about reducing his workload down to full time.

Daniel Kammen

Professor



Daniel Kammen has been named US Science Envoy for 2016-2017, serving Secretary of State John Kerry and the US State Department. This year, Kammen concluded his six-year term as a Fellow of the Energy and Climate Partnership of the Americas program, launched by President Obama in 2009 as a ministerial-level working group across the Americas. In addition, this is Kammen’s last year (appointed in 2014) serving as the Lead Scholar for Fullbright NEXUS Program. Kammen also published a new paper in Science arguing for and establishing a web-based tool to identify climate information needs of indigenous and other ‘front line’ communities, and to access and bring this information to them.

Isha Ray

Associate Professor



Isha Ray continued her tenure as Co-Director of the Berkeley Water Center, and, through the BWC, started a new collaboration safe drinking water in rural China with the College of Natural Resources, the School of Public Health, and the China Centers for Disease Control (CDC). The team presented their joint work in Beijing, on World Water Day 2016. She also launched United Nations Women’s new presentation on Sanitation and Gender Equality (with co-authors Dr. Zachary Burt and Dr. Kara Nelson) at the UN in New York; this work was supported by the Blum Center for Developing Economies.

ERG Faculty News 2016

Catherine Koshland

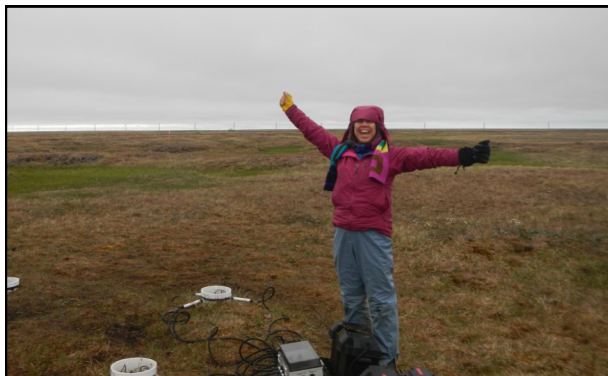
Professor, Vice Chancellor for Undergraduate Education



Cathy Koshland is the Vice-Chancellor, Undergraduate Education, a post she began in 2014. This division has the campus lead responsibility for supporting innovation and change to improve the undergraduate experience. Major efforts include convening the Council of College Deans and working with many other units to help implement the vision for undergraduate education. Other dimensions of her work include guiding new ventures for UC Extension, edX, Summer Sessions, Study Abroad and OLLI; working on how best to leverage and integrate technology into teaching; supporting advising initiatives and the new student systems implementation project. This spring, she was the PI for a NSF/NIH workshop in collaboration with the Green Science Policy Institute on the responsible disposal of materials mixed with flame retardants. Cathy is delighted to have her five grandchildren in the Bay Area, and to be able to enjoy Open Field Farm in Petaluma - an organic biodynamic on-farm pickup CSA - that her daughter Sarah (Cal'99) runs with her husband. Maggie (Cal '02) lives with her family in San Mateo and works for IDEO. Jake (a Bear since birth) was married last May and has settled in Brooklyn making for a good excuse for Cathy and Jim to travel.

Margaret Torn

Adjunct Associate Professor



Margaret Torn studies the global carbon cycle, with projects that span from measuring flux in the Arctic to developing strategies to reduce US greenhouse gas emissions by 80%. When not at ERG, Margaret leads the Biosphere-Atmosphere Interac-

tions Program domain at Berkeley Lab, with a team of more than 50 people measuring and modeling ecosystems and climate change. In November, she was recognized with a Women @ the Lab 2015 award for research and mentoring. Soon after graduation she will be headed above the Arctic Circle to Barrow, Alaska where she is conducting the first-ever controlled experiment to warm soil and permafrost, and measuring greenhouse gas (CO₂, CH₄) emissions from thawing permafrost. Margaret, along with a current and a former PhD student are helping the state of California include terrestrial ecosystems in their climate change mitigation accounting under AB32, and she is a member of the U.S. Deep Decarbonization Pathways Project. She currently serves on the advisory board for the Global Change and Biodiversity priority program at University of Zurich and is advising a US interagency working group on critical observations for climate change science.

Congratulations Graduates!

UNIVERSITY OF CALIFORNIA, BERKELEY

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SANTA BARBARA • SANTA CRUZ

Congratulations to this year's graduates! We are all, faculty and staff, proud of your achievements and want to encourage you to put your talents and education to work in creating a more sustainable and equitable world.

This has been another eventful year at ERG, having prepared an ambitious strategic plan; one that has provided the framework and vision for how ERG can play a meaningful role in helping the campus maximize the interdisciplinary potential of its world-class environmental expertise. As part of our vision we are launching our first summer courses, working with campus units to develop more external offerings, re-vamped our by-laws and are in the process of filling a new faculty position in Environmental Science. In spite of much campus turmoil, ERG remains 'rock solid' in the support it receives from CNR and the campus because of our continued academic success, relevance and rigor. Finally we had a special and provocative ERG Annual Lecture from our own Richard Norgaard, Professor Emeritus, preceded by a panel discussion of former students, chronicling Dick's exceptional contribution in creating the field of ecological economics and to ERG's culture of intellectual courage and inquiry.

I thank all of our extraordinary students, faculty, staff and alumni for your commitment and contributions to ERG. Thanks to you, this is a very special place whose relevance has never been more important.

Professor Harrison Fraker
Chair, Energy and Resources

Make a Gift to ERG

Please consider making an annual donation to ERG. Donations to our fellowship funds make a huge difference for our students and help bring their research to a world in much need of it. Contact our office or visit our website to give.



ERG 2016 Master's Graduates

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