

Katharine L. Ricke

CONTACT INFORMATION	School of Global Policy and Strategy University of California San Diego 9500 Gillman Dr 0519 La Jolla CA 92093-0519 USA	(612) 382-8145 kricke@ucsd.edu http://katericke.com
EDUCATION	Carnegie Mellon University , Pittsburgh, Pennsylvania USA Ph.D., Engineering & Public Policy, August 2011 Massachusetts Institute of Technology , Cambridge, Massachusetts USA S.B., Earth, Atmospheric & Planetary Science (Subcourse: Physics of the Ocean and Atmosphere; Minor: Public Policy), May 2004	
HONORS AND AWARDS	<ul style="list-style-type: none">• UCSD Center on Global Transformation Policy Faculty Fellow, 2018-2019• Kavli Fellow, National Academy of Sciences Frontiers in Science, 2012• Herb Toor Award for Outstanding Research Paper, Carnegie Mellon, 2009• National Science Foundation Graduate Research Fellowship, 2008-2011• ARCS Foundation Scholar, 2007-2010• Christopher Goetze Prize for Undergraduate Research, MIT, 2004• MIT Program on Human Rights and Justice Fellowship, MIT, 2003	
AFFILIATIONS	<ul style="list-style-type: none">• UCSD Center for Comparative Immigration Studies, Advisory Board Member, 2018-• UCSD Center for Climate Change Impacts and Adaptation, Faculty Affiliate, 2017-• UCSD Deep Decarbonization Initiative, Faculty Affiliate, 2016-	
ACADEMIC EXPERIENCE	University of California San Diego , La Jolla, California USA <i>Assistant Professor</i> , School of Global Policy and Strategy <i>Assistant Professor</i> , Scripps Institution for Oceanography	Jul 2016 - present Jul 2016 - present
	Cornell University , Ithaca, New York USA <i>Research Associate</i> , Sibley School of Mechanical and Aerospace Engineering	Jan 2016 - Jul 2016
	Carnegie Institution for Science , Stanford, California USA <i>Fellow</i> , Department of Global Ecology <i>Postdoctoral Researcher</i> , Department of Global Ecology	Jan 2013 - Dec 2015 Sept 2011 - Dec 2012
	Carnegie Mellon University , Pittsburgh, Pennsylvania USA <i>Graduate Research Assistant</i> , Climate Decision Making Center	Sept 2007 - Aug 2011
	University of Oxford , Oxford UK <i>Visiting Researcher</i> , Climate Dynamics Group, Department of Physics	Jun - Aug 2008
	Massachusetts Institute of Technology , Cambridge, MA USA <i>Undergraduate Research Assistant</i> , Sachs Lab for Paleoclimatology and Organic Geochemistry	Sept 2001 - May 2002 Sept 2003 - May 2004

Summer Research Fellow, Akha Heritage Foundation, Chaing Rai, Thailand Jun - Aug 2003

Undergraduate Research Assistant, Department of History Sept 2002 - Feb 2003

Undergraduate Research Assistant, Jun - Aug 2002
MIT Department of Civil & Environmental Engineering and
Potters for Peace, San Francisco Libre, Nicaragua

PROFESSIONAL
EXPERIENCE

Abt Associates, Cambridge, Massachusetts USA

Associate Analyst and Research Assistant

Sept 2004 - Jun 2007

Performed environmental data analysis, program support and evaluation activities for the U.S. Environmental Protection Agency.

PUBLICATIONS

Ricke, K., Drouet, L., Caldeira, K. Tavoni, M. (2018), Country-Level social cost of carbon. 2018. *Nature Climate Change*, doi: 10.1038/s41558-018-0282-y.

MacMartin, D.G., **Ricke, K.L.** and D.W. Keith. Solar Geoengineering as part of an overall strategy for meeting the 1.5 C Paris target. 2018. *Phil. Trans. Roy. Soc. A*, doi: 10.1098/rsta.2016.0454

Ricke, K.L., R. Millar and D.G. MacMartin. . Constraints on global temperature target overshoot. 2017. *Scientific Reports*, 7(1), p.14743.

Heutel, G., J.B. Moreno-Cruz and **K.L. Ricke**. Climate Engineering Economics. 2016. *Annual Review of Resource Economics*, 8:99-118.

Albright, R., J. Hosfelt, L. Kwiatkowski, J. K. Maclaren, B. M. Mason, Y. Nebuchina, A. Ninokawa, J. Pongratz, **K. L. Ricke**, T. Rivlin, K. Schneider, M. Sesoue, K. Shamberger, J. Silverman, K. Wolfe and K. Caldeira. 2016. Ocean acidification is already suppressing coral reef growth. *Nature*, doi:10.1038/nature17155.

Moreno-Cruz, J.B., **K.L. Ricke** and G. Wagner. 2015. "The Economics or Climate Engineering." *Geoengineering Our Climate* (eds. Blackstock, Miller and Rayner)

Ricke, K.L., J.B. Moreno-Cruz, J. Schewe, A. Levermann and K. Caldeira. 2016. Policy thresholds in mitigation. *Nature Geoscience*, 9:5-6.

Kwiatkowski, L., **K.L Ricke**. and K. Caldeira. 2015. Atmospheric consequences of disruption of the ocean thermocline. *Environmental Research Letters*, 10:034016.

Ricke, K.L. and K. Caldeira. 2014. Timing and amount of maximum warming from a carbon dioxide emission. *Environmental Research Letters*, 9:124002.

Kravitz, B., D.G. MacMartin, A. Robock, P.J. Rasch, **K.L Ricke.**, J.N. Cole, C.L. Curry, P.J. Irvine, D. Ji, D.W. Keith, J.E. Kristjansson, J.C. Moore, H. Muri, B. Singh, S. Tilmes, S. Watanabe, S. Yang and J.H. Yoon. 2014. A multi-model assessment of regional climate disparities caused by solar geoengineering. *Environmental Research Letters* 9:074013.

Ricke, K.L. and K. Caldeira. 2014. Natural Climate Variability and Future Climate Policy. *Nature Climate Change*, 4:333-338.

Caldeira, K. and **K.L Ricke**. 2013. Prudence on solar climate engineering. *Nature Climate Change* 3:941-941.

Ricke, K.L., J. Orr, K. Schneider and K. Caldeira. 2013. Risks to coral reefs from ocean carbonate chemistry changes in recent earth system model projections. *Environmental Research Letters*, 8:034003.

Victor, D.G., Morgan, M.G., Apt, J., Steinbruner, J. and **Ricke, K.** 2013. The truth about geoengineering. *Foreign Affairs*.

Ricke, K.L., J.B. Moreno-Cruz and K. Caldeira. 2013. Strategic incentives for climate geoengineering coalitions to exclude broad participation. *Environmental Research Letters*, 8:014021.

Ricke, K.L., D. J. Rowlands, W.J. Ingram, D.W. Keith, and M.G. Morgan. 2012. Effectiveness of stratospheric solar-radiation management as a function of climate sensitivity. *Nature Climate Change* 2:9296.

Moreno-Cruz, J.B., **K.L. Ricke** and D.W. Keith. 2011. A simple model to account for regional inequalities in the effectiveness of solar radiation management. *Climatic Change* 110(3-4):649-668.

Morgan, M.G. and **K.L. Ricke**. 2010. Cooling the Earth Through Solar Radiation Management: The need for research and an approach to its governance. An Opinion Piece for the International Risk Governance Council.

Ricke, K.L., M.R. Allen, and M.G. Morgan. 2010. Regional climate response to solar-radiation management. *Nature Geoscience* 3:537-541.

Victor, D.G., M.G. Morgan, J. Apt, J. Steinbruner, and **K. Ricke**. 2009. The Geoengineering Option: A Last Resort Against Global Warming?. *Foreign Affairs*, 88(2):64-76.

TEACHING
EXPERIENCE

UC San Diego, La Jolla, California USA

GPCO 407 Policy Analysis and Decision Theory

Apr 2017-

SIOC 209 Environmental and Climate Decision Making

SIOC 292 Climate Science and Policy

SIO 60 Experiences in Oceanic and Atmospheric Sciences

Stanford University, Stanford, California USA

Lecturer, Public Policy Program

Apr - Jun 2015

PUBLPOL 353: "Science & Technology Policy"

Lecturer, Department of Environment and Earth Systems Science

Apr - Jun 2013

EESS 37N: "Climate Change: Science & Society"

Carnegie Mellon University, Pittsburgh, Pennsylvania USA

Project Manager

Aug - Dec 2009

19-452 EPP Project Course: "Reducing Obesity in Allegheny County."

COURSES AND
WORKSHOPS

Harvard Project on Climate Agreements research work shop on Governance of the Deployment of Solar Geoengineering, September 27 - 28, 2018.

Workshop on geoengineering research governance in California, UCLA, Feb 12 - 13, 2018.

Bellagio Workshop on International Governance of Climate Engineering, Bellagio, Italy, October 2015.

Solar Geoengineering Research Residency, Cambridge, Massachusetts, May/June 2015.

Bipartisan Policy Center and Environmental Defense Fund Workshop on SRM Geoengineering Governance, San Francisco, California, April 2014.

Climate Engineering – Fourth Transdisciplinary Summer School, Cambridge, Massachusetts, August 2013.

DISsertations initiative for the advancement of Climate Change ReSearch Symposium, Colorado Springs, Colorado, October 2012.

NCAR Community Earth System Modeling Tutorial, Boulder, Colorado, August 2012.

Global Sustainability Summer School in *Risk, uncertainty and extreme events*, Potsdam, Germany, July 2012.

Climate Engineering – Second Transdisciplinary Summer School, Banff, Canada, August 2011.

Governing Climate Engineering – Transdisciplinary Summer School, Heidelberg, Germany, July

2010.

Workshop on Understanding and Governing the Risks of Planetary-scale Geoengineering, Lisbon, Portugal, April 2009.

Asilomar International Conference on Climate Intervention Technologies, Asilomar, California, March 2009.

Council on Foreign Relations Workshop on Unilateral Planetary Scale Geoengineering, Washington, D.C., May 2008.

Professional Training in: Risk Assessment & Life Cycle Assessment, Harvard University Extension School, Cambridge, Massachusetts, 2006.

SELECT
PROFESSIONAL
ACTIVITIES

- National Academies of Sciences, Engineering, and Medicine Committee on Developing a Research Agenda and Research Governance Approaches for Climate Intervention Strategies that Reflect Sunlight to Cool Earth, 2019-present
- Working Group: Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) Working Group 41, 2016-present
- GPS Science Policy Fellowship program mentor, 2017-present
- Reviewer for: *Nature Climate Change*, *Nature Geoscience*, *Nature Communications*, *Geophysical Research Letters*, *Climatic Change*, *Global Environmental Change*, *Earth System Dynamics*, *Environmental Research Letters*, *Ecology Letters*, *Journal of Geophysical Research - Atmospheres*, *Journal of Climate*, *The Anthropocene Review*, *Scientific Reports*, *Economics Research International*, National Science Foundation, National Academies of Science
- Session Co-chair, GC002: “Adapting to Rates of Climate Change: Natural and Human Dimensions” AGU Fall Meeting 2015
- Session Co-chair, GC028: “Integrating Natural and Social Science Research to Address Human Dimensions of Global Change” AGU Fall Meeting 2012
- Seminar Planning Committee, Department of Global Ecology, Carnegie Institution for Science, 2012-2013
- Graduate Student Liaison to CIT College Council, Carnegie Mellon University, 2010-2011