Katherine (Katie) Dagon

National Center for Atmospheric Research
P.O. Box 3000, Boulder, CO 80307
kdagon@ucar.edu ◆ https://katiedagon.github.io

EDUCATION

Harvard University — Cambridge, MA
Ph.D., Earth and Planetary Sciences — 2017
A.M., Earth and Planetary Sciences — 2015
Advisor: Dr. Daniel Schrag

Brown University — Providence, RI
B.S., Mathematics-Physics, graduation with Honors — 2010
Advisor: Dr. Brad Marston

PROFESSIONAL EXPERIENCE

National Center for Atmospheric Research — Boulder, CO
Advanced Study Program (ASP) Postdoctoral Fellow, Climate and Global Dynamics — 2017-present

Harvard University — Cambridge, MA
Graduate Research Assistant, Department of Earth and Planetary Sciences — 2011-2017

United Technologies — South Windsor, CT
NASA-UTC Internship Program — 2010

Brown University — Providence, RI
Undergraduate Research Assistant, Department of Physics — 2009-2010

State of Connecticut Department of Energy and Environmental Protection — Hartford, CT
Seasonal Resource Assistant — 2007, 2008, & 2010-2011

PEER-REVIEWED PUBLICATIONS

Dagon, K., and D.P. Schrag (2019), Quantifying the Effects of Solar Geoengineering on Vegetation, *Climatic Change*, 153, 235-151, http://dx.doi.org/10.1007/s10584-019-02387-9.

Dagon, K., and D.P. Schrag (2017), Regional Climate Variability under Model Simulations of Solar Geoengineering. *Journal of Geophysical Research: Atmospheres*, 122, 12106-12121, http://dx.doi.org/10.1002/2017JD027110.

Dagon, K., and D.P. Schrag (2016), Exploring the Effects of Solar Radiation Management on Water Cycling in a Coupled Land-Atmosphere Model. *Journal of Climate*, 29, 2635-2650, http://dx.doi.org/10.1175/JCLI-D-15-0472.1.

Tobias, S.M., **K. Dagon**, and J.B. Marston (2011), Astrophysical Fluid Dynamics via Direct Statistical Simulation. *The Astrophysical Journal*, 727, 127, http://dx.doi.org/10.1088/0004-637X/727/2/127.

SUBMITTED PUBLICATIONS

Cheng, W., D.G. MacMartin, **K. Dagon**, B. Kravitz, S. Tilmes, J.H. Richter, M.J. Mills, and I.R. Simpson, Soil moisture and other hydrological changes in a stratospheric aerosol geoengineering large ensemble, *submitted to Journal of Geophysical Research: Atmospheres*.

Kravitz, B., D.G. MacMartin, S. Tilmes, J.H. Richter, M.J. Mills, W. Cheng, **K. Dagon**, A.S. Glanville, J.-F. Lamarque, I.R. Simpson, J.J. Tribbia, and F. Vitt, Comparing surface and stratospheric impacts of geoengineering with different SO_2 injection strategies, *submitted to Journal of Geophysical Research: Atmospheres*.

SELECTED CONFERENCE PRESENTATIONS

Dagon, K., R. Fisher, D.M. Lawrence, and B.M. Sanderson, Machine Learning for Parameter Estimation in CLM5. *CESM Land Model Working Group Meeting*, Boulder, CO, oral presentation, February 2019.

Dagon, K., R. Fisher, D.M. Lawrence, and B.M. Sanderson, Reducing Uncertainty in Land Surface Models. *American Geophysical Union Fall Meeting*, Washington, DC, oral presentation, December 2018.

Dagon, K., R. Fisher, D.M. Lawrence, and B.M. Sanderson, Moving towards a global biogeophysical parameter optimization for CLM5. *Community Earth System Model Workshop*, Boulder, CO, oral presentation, June 2018.

Dagon, K., and D.P. Schrag, Effects of Solar Geoengineering on Vegetation: Implications for Biodiversity and Conservation. *American Geophysical Union Fall Meeting*, New Orleans, LA, oral presentation, December 2017.

Dagon, K., and D.P. Schrag, Regional Climate Variability under Model Simulations of Solar Geoengineering. *Gordon Research Conference: Climate Engineering*, Newry, ME, poster presentation, July 2017.

Dagon, K., Soil Moisture-Climate Coupling under Model Simulations of Solar Geoengineering. *Community Earth System Model Workshop,* Breckenridge, CO, oral presentation, June 2016.

Dagon, K., Exploring the Effects of Solar Radiation Management on Water Cycling in a Coupled Land-Atmosphere Model. *Graduate Climate Conference*, Woods Hole, MA, oral presentation, November 2015.

INVITED SEMINARS

Pennsylvania State University — State College, PA
Department of Meteorology and Atmospheric Science Colloquium — February 2019

American University — Washington, DC
Department of Environmental Science Seminar — February 2019

Indiana University — Bloomington, IN
Department of Earth and Atmospheric Sciences Colloquium — January 2019

Pennsylvania State University — State College, PA
Department of Geography Seminar — January 2019

University of Washington — Seattle, WA
Department of Atmospheric Sciences Seminar — July 2018

TEACHING EXPERIENCE

National Center for Atmospheric Research — Boulder, CO
Instructor, Community Terrestrial Systems Model Tutorial — 2019

- Lectured and co-led/developed practical sessions during a week-long tutorial on land surface modeling for 45 students.

Harvard University — Cambridge, MA
Teaching Fellow, Department of Earth and Planetary Sciences — 2013-2016

- Taught discussion sections and labs in climate science and energy at the undergraduate and graduate student level.
  The Consequences of Energy Systems (graduate level, Fall 2015 and Fall 2016)
  The Climate-Energy Challenge (undergraduate level, Fall 2014, Fall 2015 and Fall 2016)
  The Fluid Earth (undergraduate level, Spring 2013)

Brown University Providence, RI

Teaching Assistant, Department of Mathematics 2009

- Graded problem sets and exams for Introductory Calculus.
- Helped implement online grade sharing system for multiple course sections.

Math Peer Tutor, Brown University Tutoring Program 2008

- Tutored undergraduate students in Math and Applied Math courses.

SELECTED AWARDS AND FELLOWSHIPS

Andrew Slater Award, NCAR Land Model Working Group Meeting 2019
Earth Educators' Rendezvous Travel Grant 2018
NCAR Advanced Study Program Postdoctoral Fellowship 2017
Presidential Management Fellowship Finalist 2017
Certificate of Teaching Excellence, Bok Center for Teaching & Learning 2014, 2016
Duff Family Endowed Graduate Support Fund 2013-2014
Graduate Consortium Fellowship, Harvard University Center for the Environment 2012-2013
Joseph J. Loferski Award, Brown University Engineering 2010
Brown University Undergraduate Research and Teaching Award 2009

ACADEMIC SERVICE AND LEADERSHIP

Co-Chair, Gordon Research Seminar on Climate Engineering *(to be held in 2020)* 2019 -
Physics of Climate Executive Committee, American Physical Society 2019 -
Postdoctoral Fellows Networking Committee, National Center for Atmospheric Research 2017 -
Physics of Climate Program Committee, American Physical Society 2017-2018
Plants and Climate Seminar Series Organizer, Harvard University 2015-2016
Graduate Student Field Trip Organizer, Harvard University 2014
Agassiz Visiting Lecturer Committee, Harvard University 2013-2014
Summer School on Geoengineering Organizing Committee, Harvard University 2013
Harvard Graduate Consortium on Energy and Environment 2012-2015
ClimaTea Journal Club Organizer, Harvard University 2012
Journal Reviewer: Geoscientific Model Development, Atmospheric Chemistry and Physics, Journal of Hydrometeorology

MENTORING

UCAR Next Generation Fellowship Research Mentor 2019 -
NCAR SOARS Internship Program Community Mentor 2018
Harvard College Women's Center WISTEM Mentor 2016-2017
Intel Science Research Program High School Student Mentor 2014-2015
EPS Graduate Student Mentee (Year 1) and Mentor (Years 3 and 4) 2011-2015
Harvard Graduate Women in Science and Engineering Mentoring Program 2011-2013
Brown University Women's Launch Pad Mentoring Program 2009-2010

PUBLIC ENGAGEMENT

NCAR Traveling Climate Exhibit Scientific Reviewer, Boulder, CO 2019
NCAR CESM Tutorial Volunteer, Boulder, CO 2018
USA Science and Engineering Festival Volunteer, Washington, DC 2018
Project Bridge Colorado Science Day at the State Capitol, Denver, CO 2018
Twin Peaks Charter Academy Guest Scientist, Longmont, CO 2017
NCAR Super Science Saturday Volunteer, Boulder, CO 2017, 2018
Harvard GSAS Science Policy Group Trip, Washington, DC 2016
There's a Scientist in My Classroom! Guest Lecturer, Danvers, MA 2014
Cambridge 8th Grade Science and Engineering Showcase Volunteer, Cambridge, MA 2014
Science in the News Event Organizer and Lecturer, Boston, MA 2013-2016

SCIENCE WRITING

Dagon, K., "Engineering the Earth to Fight Climate Change," *Science in the News Blog*, 25 October 2016, http://sitn.hms.harvard.edu/flash/2016/engineering-earth-fight-climate-change.

Dagon, K., "Climate Change 2016: Make America Hot Again," *Science in the News Blog*, 9 August 2016, http://sitn.hms.harvard.edu/flash/2016/climate-change-2016-make-america-hot.

Dagon, K., "Science by the Pint," *The Plainspoken Scientist*, Student Blog Series, 18 July 2016, http://blogs.agu.org/sciencecommunication/2016/07/18/science-by-the-pint.

Dagon, K., "Pausing to Talk About Climate Change," *Science in the News Blog*, Special Edition on Climate Change, 30 June 2014, http://sitn.hms.harvard.edu/flash/2014/pausing-to-talk-about-climate-change.

SELECTED WORKSHOPS AND SHORT COURSES

The Community WRF-Hydro Modeling System Training Workshop 2018
National Center for Atmospheric Research, Boulder, CO

UCAR/NCAR Equity and Inclusion (UNEION) 101 Training Series 2018
National Center for Atmospheric Research, Boulder, CO

Earth Educators' Rendezvous Preparing for an Academic Career Workshop 2018
University of Kansas, Lawrence, KS

The Functionally Assembled Terrestrial Ecosystem Simulator (FATES) Tutorial 2018
National Center for Atmospheric Research, Boulder, CO

Low Environmental Impact Solar Radiation Management Experiments Workshop 2016
Institute for Advanced Sustainability Studies, Potsdam, Germany

Active Learning in the Sciences Teaching Seminar 2015
Derek Bok Center for Teaching and Learning, Cambridge, MA

Community Land Model (CLM) Tutorial 2014
National Center for Atmospheric Research, Boulder, CO

ComSciCon-local Communicating Science Workshop 2014
Harvard University, Cambridge, MA

Shaping Policy with Science, Graduate Student Council Short Course 2014
Harvard University, Cambridge, MA

Fourth Interdisciplinary Summer School on Geoengineering 2013
Harvard University, Cambridge, MA

Global Climate Coalition at UNFCCC COP15 2009
University of Copenhagen, Copenhagen, Denmark

PROFESSIONAL AFFILIATIONS

American Geophysical Union, American Physical Society, Earth Science Women's Network

TECHNICAL SKILLS

Languages: Unix, Fortran, C, Objective C/C++, HTML, LaTeX, Bash
Modeling Tools: NetCDF, HDF4/5, HPC, Machine Learning, Open MPI, NCAR CESM/CLM
Development Tools: Git/GitHub, Subversion, Jupyter Notebooks
Scientific Visualization & Analysis: R, NCL/NCO, Python, Matlab, Mathematica