

Ploy Pattanun Achakulwisut

Harvard University, Pierce Hall 110G, 29 Oxford Street, Cambridge, MA 02138, USA
pachakulwisut@fas.harvard.edu • (+1) 857-253-9788 • <http://scholar.harvard.edu/pachakulwisut>

EDUCATION

Harvard University	Cambridge, MA
Ph.D., Earth & Planetary Sciences	Expected November 2017
M.A., Earth & Planetary Sciences	2013
University of Cambridge, Trinity College	Cambridge, UK
M.Sci., Natural Sciences (Chemistry)	2011
B.A., Natural Sciences (Chemistry)	2011

RESEARCH EXPERIENCE

Harvard University, Atmospheric Chemistry Modeling Group	Cambridge, MA
<i>Ph.D. Student Researcher</i> (Advisors: Dr. Loretta Mickley and Prof. Daniel Jacob)	2011-present
<ul style="list-style-type: none">• Thesis: “<i>Investigating atmospheric chemistry-climate interactions on multiple spatiotemporal scales</i>”• Exploring future air quality and public health risks in the southwestern U.S. under future climate change.• Quantified influence of climate variability and meteorology on air quality in western U.S. by statistical methods.• Analyzed sensitivity of atmospheric chemical composition to climate change in the past by performing global climate and atmospheric chemistry model simulations.	
University of Cambridge, Center for Atmospheric Science	Cambridge, UK
<i>M.Sci. Student Researcher</i> (Advisors: Dr. Peter Braesicke and Prof. John A. Pyle)	2010-11
<ul style="list-style-type: none">• Thesis: “<i>Asian summer monsoon and its impact on atmospheric composition</i>”• Explored impacts of Asian summer monsoon on atmospheric composition and circulation dynamics by analyzing output from global atmospheric chemistry model simulations.	
<i>Summer Student Researcher</i> (Advisors: Dr. Francis Pope and Dr. Markus Kalberer)	Summer 2010
<ul style="list-style-type: none">• Designed and conducted experiments to investigate chemical reactivity of airborne organic particulate matter.	
Woods Hole Oceanographic Institution	Woods Hole, MA
<i>Summer Student Fellow</i> (Advisor: Dr. William Martin)	Summer 2009
<ul style="list-style-type: none">• Conducted experiments to quantify the solubility of biogenic calcite in seawater.	

TEACHING EXPERIENCE

Harvard University, Dept. of Earth & Planetary Sciences	Cambridge, MA
<i>Teaching Fellow</i> in 2 undergraduate courses	Spring 2014, 2015
<ul style="list-style-type: none">• Topics: Climate, Atmospheric, and Marine Science.• Prepared course materials. Led weekly problem-solving, discussion, and programming sections for groups of 10-15 students. Supervised final research projects. Graded exams and weekly homework.	

PEER-REVIEWED PUBLICATIONS

Achakulwisut, P., L. J. Mickley, and S. C. Anenberg, Increasing airborne dust and public health risks in the southwestern United States under future climate change, *in preparation*.

Achakulwisut, P., L. Shen, and L. J. Mickley, What controls springtime fine dust variability in the western United States? Implications for the recent dust increase in the Southwest, *invited to resubmit to J. Geophys. Res.* (2017).

Achakulwisut, P., L. J. Mickley, L. T. Murray, A. P. K. Tai, J. O. Kaplan, and B. Alexander, Uncertainties in isoprene photochemistry and emissions: Implications for the oxidative capacity of past and present atmospheres and for climate forcing agents, *Atmos. Chem. Phys.*, **15**, 7977-7998 (2015).

Gallimore, P. J., P. Achakulwisut, F. D. Pope, J. F. Davies, D. R. Spring, and M. Kalberer, Importance of relative humidity in the oxidative ageing of organic aerosols: case study of the ozonolysis of maleic acid aerosol, *Atmos. Chem. Phys.*, **11**, 12181-12195 (2011).

CONFERENCE PRESENTATIONS

“Uncertainties in isoprene photochemistry and emissions: Implications for the oxidative capacity of past and present atmospheres and for climate forcing agents”. *2015 AGU Fall Meeting*, San Francisco, CA (14 Dec 2015).

“Uncertainties in isoprene photochemistry and emissions: Implications for the oxidative capacity of past and present atmospheres and for climate forcing agents”. *7th International GEOS-Chem Meeting*, Harvard University, MA (5 May 2015).

FELLOWSHIPS & AWARDS

Certificate of Distinction in Teaching, Harvard University, Cambridge, MA	Spring 2014
Graduate Student Council Conference Grant, Harvard University, Cambridge, MA	Fall 2014
Co-recipient of MIT Climate CoLab 2014 Popular Choice Award and Finalist in the “Shifting behavior for a changing climate” competition	Fall 2014
Jardine Foundation Scholarship (7 recipients/300 applicants; ~\$200,000 for 4-year study at the University of Cambridge)	2007-11
Corporate Associates Scheme’s Summer Research Studentship, University of Cambridge, UK	Summer 2010
Summer Student Fellowship, Woods Hole Oceanographic Institution, Woods Hole, MA	Summer 2009

SKILLS

PROGRAMMING LANGUAGES: Proficient in R and NCL, and experience with Matlab for data analysis and visualization. Experience with HTML, Fortran, IDL, and GrADS.

SOFTWARE: Proficient in Microsoft Office and LaTeX. Experience with Adobe Illustrator, Adobe Photoshop, and WordPress.

CLIMATE POLICY/ADVOCACY LEADERSHIP & VOLUNTEER EXPERIENCE

Climate Advocacy Campaigns	USA
<i>Co-organizer</i>	2014-present
<ul style="list-style-type: none">• Strategic planning and recruitment for “Stand Up For Science” rallies (Feb 2017, Boston, MA; Dec 2016, San Francisco, CA) and “People’s Climate March” Scientist Contingent (Sept 2014, New York, NY).• Solicited petition signatures from 800 academics & 130k citizens urging federal climate action (Dec 2016).• Published op-ed and white paper, solicited petition signatures from 300 geoscientists & 56k citizens for campaign urging the American Geophysical Union to stop receiving ExxonMobil sponsorship (2015-6).	
Tip Of The Iceberg	Cambridge, MA
<i>Co-founder & Co-editor</i>	Oct-Dec 2016
<ul style="list-style-type: none">• Writing, designing, and distributing e-newsletters to communicate the latest climate/energy science and policy news, and suggestions for how individuals can take action (see climateTOTi.com).	
United Nations Framework Convention on Climate Change Conference (COP20)	Lima, Peru
<i>SustainUS Youth Delegate</i> (“U.S. Youth for Sustainable Development” non-profit)	2014
<ul style="list-style-type: none">• Led and designed an online interactive project showcasing how young people worldwide are taking climate action. Developed website and social media platforms for publicity and outreach. Fundraised (\$1,500). Directed the project’s exhibit at COP20 (see ClimateSelfieProject.org).• Gained first-hand insights into international climate policy negotiations, media relations, and advocacy.	
MIT Climate CoLab Competition (“Shifting behavior for a changing climate” category)	Cambridge, MA
<i>Co-recipient of Popular Choice Award & Finalist</i> for written proposal on fossil fuel divestment	Fall 2014
People’s Climate March	New York, NY
<i>Scientists contingent co-organizer; Security Marshal</i>	Sep 2014
<ul style="list-style-type: none">• Helped with social media, graphics design, and recruitment for the Scientists contingent.	
Fossil Free MIT (student-led campaign calling for climate change action at MIT)	Cambridge, MA

Strategy & media co-organizer 2013-16

- Fossil Free MIT helped to launch MIT's institute-wide Climate Action Plan and received MIT's 2016 Martin Luther King Leadership Award.
- Experience with organizing events, writing press releases, designing publicity materials and websites.
- Co-led an online campaign and created website to solicit high-profile climate scientists and advocates to write an open letter in support of MIT fossil fuel divestment (see MITclimatecountdown.org).

Harvard University Energy Journal Club Cambridge, MA
Workshop organizing Committee Member 2013-14

- Helped organize “Energy, Technology, and Policy” one-week workshop open to all graduate students.
- Led workshop on “Introduction to climate science and energy”.

CLIMATE SCIENCE & ADVOCACY COMMUNICATION

PUBLICATIONS (*Equal author contributions)

G. Supran and P. Achakulwisut*, “You marched for science and climate action. Now what?” Op-ed, *Mashable* (6 May 2017).

P. Achakulwisut* and G. Supran, “We became scientists to help the world. Now we need to take to the streets.” Op-ed, *Mashable* (11 Apr 2017).

P. Achakulwisut, “Why are scientist so averse to public engagement?” Op-ed, *Scientific American* (8 Mar 2017).

P. Achakulwisut* and G. Supran, “An Open Letter from Scientists to President-Elect Trump on Climate Change.” Open Letter, *Scientific American* (6 Dec 2016).

P. Achakulwisut*, B. Scandella, G. Supran, and B. Voss, “Ending ExxonMobil Sponsorship of the American Geophysical Union: How ExxonMobil’s past and present climate misinformation violates the AGU’s Organizational Support Policy and scientific integrity.” White paper (25 March 2016).

P. Achakulwisut*, B. Scandella, and B. Voss, “Why is the largest Earth science conference still sponsored by Exxon?” Op-ed, *The Guardian* (6 Jan 2016).

G. Supran and P. Achakulwisut*, “Fossil fuel companies grow nervous as divestment movement grows stronger.” Op-ed, *Grist.org* (12 Dec 2014).

INVITED TALKS & PRESENTATIONS

“People’s Climate March AMA with Dr. Michael E. Mann, Dr. Robert Bullard, and Ploy Achakulwisut.” *Reddit Science Ask Me Anything Series*, online (17 April 2017).

“Environmental Science workshop” co-leader. *Harvard Science Research Conference*, Harvard University, Cambridge, MA, USA (16 Oct 2016).

“Wake up. Freak out. Then Do Something (about Climate Change).” *American Chemical Society*, Suffolk University, Boston, MA, USA (4 Dec 2015).

“Climate Change and Weather.” *9th Annual Youth Summit on Climate Change*, Massachusetts Institute of Technology, Cambridge, MA, USA (30 May 2015).

“Wake up. Freak out. Then Do Something (about Climate Change).” *Environmental Science & Engineering Lunch Lounge*, Harvard University, Cambridge, MA, USA (16 Sep 2014).

“Climate and Energy.” *Harvard Energy Journal Club 2014 workshop on Energy, Technology, and Policy*, Harvard University, Cambridge, MA, USA (20 Jan 2014).

EXTRA-CURRICULAR ACTIVITIES & INTERESTS

Experience and interest in web, infographics, and graphics design. See examples at:

- Websites – ClimateSelfieProject.org; MITclimatecountdown.org
- Graphics design – <http://scholar.harvard.edu/pachakulwisut/bio>

Member of Cambridge University Squash Varsity Team (CUSRC) 2008-11

Member of Cambridge University Badminton Varsity Team (CUCBC) 2007-11

Member and Captain (2008-9) of Trinity College Ladies’ 1st Badminton Team, Cambridge University 2007-11