

# Paul O’Gorman

## Curriculum Vitae

Department of Earth, Atmospheric, and Planetary Sciences  
Massachusetts Institute of Technology  
77 Massachusetts Avenue  
Cambridge MA 02139  
Email: [pog@mit.edu](mailto:pog@mit.edu)  
Webpage: <http://pog.mit.edu/>

### Degrees

2004            PhD Aeronautics (minor Applied Mathematics), Caltech  
1999            MSc High Performance Computing, Trinity College Dublin  
1998            BA Theoretical Physics, Trinity College Dublin

### Employment

2019-present    Professor of Atmospheric Science, MIT  
2012-2019      Associate Professor of Atmospheric Science, MIT  
2008-2012      Assistant Professor of Atmospheric Science, MIT  
2004-2008      Postdoctoral Scholar in Environmental Science and Engineering, Caltech

### Professional Societies

American Meteorological Society, American Geophysical Union

### Honors

MIT School of Science Graduate Teaching Prize, 2018  
The Bernhard Haurwitz Memorial Lectureship, American Meteorological Society, 2023  
University of Washington, Graduate Student Distinguished Visiting Lecture, 2024

### Postdoctoral Researchers Supervised

Griffin Mooers            2023-present  
Shuchang Liu              2024-present  
Justin Finkel               2022-present  
Matthieu Kohl              2023-2024  
Jane Smyth                 2021-2023  
Janni Yuval                 2019-2022

|                 |           |
|-----------------|-----------|
| John Dwyer      | 2014-2017 |
| Dino Bellugi    | 2012-2016 |
| Caroline Muller | 2008-2010 |

### **Ph.D. Students Supervised**

|                      |  |
|----------------------|--|
| Robert van der Drift | Atmospheric Science (2021-present)                                   |
| Grace O'Neil         | Atmospheric Science (2020-present, co-advised with Raffaele Ferrari) |
| Matthieu Kohl        | Atmospheric Science (PhD, 2022)                                      |
| Margaret Duffy       | Climate Science (PhD, 2021)  |
| Ziwei Li             | Atmospheric Science (PhD, 2021)                                      |
| Charles Gertler      | Climate Science (PhD 2020, co-advised with Ron Prinn)                |
| Michael Byrne        | Climate Physics & Chemistry (PhD 2015)                               |
| Martin Singh         | Atmospheric Science (PhD 2014)                                       |

### **UROP Students Supervised**

Phoebe Lin (2021-2022), Jason Li (2021), Sarah Weidman (2019-2021), Shannon Hwang (2018), Co Christopoulos (2017), Benjamin Jordan (2016), Rung Panasawatwong (2016), Katrina Hui (2015), Kaylee Brent (2014), Melih Ucer (2013), Reena Joubert (2012), Todd Mooring (2010)

### **Undergraduate Senior Theses Supervised**

|                    |           |
|--------------------|-----------|
| Sarah Weidman      | EAPS 2021 |
| Rung Panasawatwong | EAPS 2017 |
| Katrina Hui        | EAPS 2016 |
| Todd Mooring       | EAPS 2011 |

### **Teaching Experience**

|        |   |
|--------|---|
| 12.003 | Introduction to atmosphere, ocean, and climate dynamics<br>(Undergraduate course) Fall 2012, 2013, 2014, 2016, 2021                   |
| 12.312 | Understand and run your own climate model<br>(Undergraduate course) IAP 2010, 2011  |
| 12.802 | Wave motions in the atmosphere and ocean<br>(Graduate course; co-taught with Glenn Flierl) Spring 2009, 2010, 2011                    |
| 12.810 | Dynamics of the atmosphere<br>(Graduate course) Spring 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024                           |
| 12.812 | The general circulation of the atmosphere and climate change<br>(Graduate course) Fall 2009, 2010, 2011; Spring 2013, 2014; Fall 2019 |

12.S593 Proposals and Pathways (Graduate Course)  
Fall 2018, 2020, 2023

### **MIT Service**

EAPS Graduate Education Officer (2016-present)

EAPS co-chair of Committee on Education Program (2022-present)

EAPS Council (2022-present)

EAPS/SCC Health of Planet Faculty Search (2021-2022)

MIT Killian Award Selection Committee (2020-2021)

MIT Environmental Solutions Initiative Faculty Advisory Council (2018-present)

EAPS 2023 Task Force Working Group Co-Chair (2019-2020)

EAPS Climate Faculty Search (2019-2020, 2023-present)

MIT Committee on Discipline (COD): Associate Chair (2018-2019), member (2015-2019)

Community Giving at MIT steering committee (2014-2017)

EAPS graduate admissions committee (2008, 2009, 2016)

EAPS ad-hoc education committee (2010-2013)

EAPS climate faculty search committee (2009-2014)

Reading of freshman admissions folders (2013)

Organized the PAOC Student Open House (2009, 2010)

Served on PhD thesis committees of Roberto Rondanelli, Brian Rose, Malte Jansen, Alison Wing, Dan Chavas, Daniela Domeison, Martin Singh, Michael Byrne, Yavor Kostov, Aditi Sheshadri, Daniel Rothenberg, Brian Green, Daniel Gilford, Vince Agard, Andy Miller, Erik Lindgren, Alexander Tuel, Tom Beucler, Megan Lickley, Tristan Abbott, PJ Tuckman, Theo Carr (WHOI), Cora Hersh (WHOI)

### **External Service**

Advisory Panel of the Massachusetts Climatic and Hydrologic Risk Project (2024-present)

Associate Editor, Journal of the Atmospheric Sciences (2020-present)

Co-organizer of two oral sessions on 'Extreme precipitation in past, present, and future climates' at Fall AGU 2017, 2019

Co-organizer of Lorenz-center workshop on 'Water and climate change: Connecting the paleoclimate record to future projections' 2018

Invited participant in American Society of Civil Engineers (ASCE) workshop on Engineering methods for precipitation under a changing climate, 2017

Invited participant in World Climate Research Programme (WCRP) “Climate Science: Thinking out of the box” workshop, Paris, 2016

Scientific organizing committee member for SPARC Workshop on Storm Tracks 2015

UCAR member representative for MIT 2009-2014

Gave outreach talk on climate science at the National Science Teachers Association (NSTA) National Conference 2014

Chaired oral sessions at AMS Atmospheric and Oceanic Fluid Dynamics conference 2011, 2013, 2019

Co-organizer of three oral sessions on ‘Atmospheric circulations and climate change’ at Fall AGU 2010

Interactions with media regarding climate-change questions of interest to the public (for example, interviews for NPR and Australian national radio)

Served as PhD thesis reader/evaluator for the University of Chicago, University of New South Wales (Australia), Monash University (Australia) and University of Reading (UK)

Paper reviewer for Journal of Atmospheric Science, Journal of Climate, Geophysical Research Letters, Journal of Geophysical Research, Environmental Research Letters, Surveys in Geophysics, Tellus, Atmospheric Chemistry and Physics, Climatic Change, Nature Geoscience, Nature, Science

Grant proposal reviewer for the NSF, NOAA, NERC (United Kingdom), the Israel Science Foundation (Israel), the Helmholtz Association (Germany), NSERC (Canada)

Book reviewer for Bulletin of the American Meteorological Society and MIT Press

## **Publications**

- Student and postdoctoral advisees underlined
- Available at <http://www.mit.edu/~pog/publications.html> and <http://scholar.google.com/citations?hl=en&user=dmi9JI1IAAAJ>

Finkel, J. & O’Gorman, P. A., 2024

Bringing statistics to storylines: rare event sampling for sudden, transient extreme events  
*Journal of the Advances in Modeling Earth Systems* 16, e2024MS004264

Kohl, M. & O’Gorman, P. A., 2024

Asymmetry of the distribution of vertical velocities of the extratropical atmosphere in theory, models and reanalysis  
*Journal of the Atmospheric Sciences* 81, 545-559

Abbott, T. H. & O’Gorman, P. A., 2024

Impact of precipitation mass sinks on midlatitude storms over a wide range of climates  
*Weather and Climate Dynamics* 5, 17-41

Gertler, C. G., O’Gorman, P. A., & Pfahl, S., 2023

Moist available potential energy of the mean state of the atmosphere and the thermodynamic potential for warm conveyor belts and convection

- Weather and Climate Dynamics* 4, 361-379
- Yuval, J. & O'Gorman, P. A., 2023  
Neural-network parameterization of subgrid momentum transport in the atmosphere  
*Journal of Advances in Modeling Earth Systems* 15, e2023MS003606
- Duffy, M. L. & O'Gorman, P. A., 2023  
Intermodel spread in Walker circulation responses linked to spread in moist stability and radiation responses  
*Journal of Geophysical Research – Atmospheres* 128, e2022JD037382
- Kohl, M. & O'Gorman, P. A., 2022  
The diabatic Rossby vortex: Growth rate, length scale and the wave-vortex transition  
*Journal of the Atmospheric Sciences* 79, 2739-2755
- Wang, P., Yuval, J. & O'Gorman, P. A., 2022  
Non-local parameterization of atmospheric subgrid processes with neural networks  
*Journal of Advances in Modeling Earth Systems* 14, e2022MS002984
- Lee, S. et al. 2022  
On the future zonal contrasts of equatorial Pacific climate: Perspectives from observations, simulations, and theories  
*npj Climate and Atmospheric Science*, 5:82
- Williams, A. & O'Gorman, P. A., 2022  
Summer-winter contrast in the response of precipitation extremes to climate change over Northern Hemisphere land  
*Geophysical Research Letters* 49, e2021GL096531
- Li, Z., O'Gorman, P. A., & Rothman, D., 2022  
Tropical precipitation clusters as islands on a rough water-vapor topography  
*Quarterly Journal of the Royal Meteorological Society* 148, 403-417
- Fowler, H. J. et al 2021  
Towards advancing scientific knowledge of climate change impacts on short-duration rainfall extremes  
*Philosophical Transactions A* 379, 20190542
- Yuval, J., O'Gorman, P. A. & Hill, C. N. 2021  
Use of neural networks for stable, accurate and physically consistent parameterization of subgrid atmospheric processes with good performance at reduced precision  
*Geophysical Research Letters* 48, e2020GL091363
- O'Gorman, P. A., Li, Z., Boos, W. R. & Yuval, J. 2021  
Response of extreme precipitation to uniform surface warming in quasi-global aquaplanet simulations at high resolution  
*Philosophical Transactions A* 379, 20190543
- Tuel, A., O'Gorman, P. A., & Eltahir, E. A. B. 2021  
Elements of the dynamical response to climate change over the Mediterranean  
*Journal of Climate* 34, 1135-1146
- Gertler, C. G., O'Gorman, P. A., Kravitz, B., Moore, J.C., Phipps, S. J. & Watanabe, S. 2020

Weakening of the extratropical storm tracks in solar geoengineering scenarios  
*Geophysical Research Letters* 47, e2020GL087348

Yuval, J. & O'Gorman, P. A. 2020

Stable machine-learning parameterization of subgrid processes for climate modeling at a range of resolutions

*Nature Communications* 11, 3295

Li, Z. & O'Gorman, P. A. 2020

Response of vertical velocities in extratropical precipitation extremes to climate change

*Journal of Climate* 33, 7125-7139

Duffy, M. L., O'Gorman, P. A. & Back, L. E. 2020

Importance of Laplacian of low-level warming for the response of precipitation to climate change over tropical oceans

*Journal of Climate* 33, 4403–4417

Gertler, C. G. & O'Gorman, P. A. 2019

Changing available energy for large-scale and convective circulations in northern summer

*Proceedings of the National Academy of Sciences* 116, 4105-4110

O'Gorman, P. A. & Dwyer, J. G. 2018

Using machine learning to parameterize moist convection: potential for simulations of climate, climate change, and extreme events

*Journal of Advances in Modeling Earth Systems* 10, 2548-2563

Byrne, M. P. & O'Gorman, P. A. 2018

Trends in continental temperature and humidity directly linked to ocean warming

*Proceedings of the National Academy of Sciences* 115, 4863-4868

O'Gorman, P. A., Merlis, T. M. & Singh, M. S. 2018

Increase in the skewness of extratropical vertical velocities with climate warming: fully nonlinear simulations versus moist baroclinic instability

*Quarterly Journal of the Royal Meteorological Society* 144, 208-217

Dwyer, J. G. & O'Gorman, P. A. 2017

Changing duration and spatial extent of midlatitude precipitation extremes across different climates

*Geophysical Research Letters* 44, 5863-5871

Pfahl, S., O'Gorman, P. A. & Fischer, E. M. 2017

Understanding the regional pattern of projected future changes in extreme precipitation

*Nature Climate Change* 7, 423-427

Marotzke, J. et al 2017

Climate research must sharpen its view

*Nature Climate Change (commentary)* 7, 89-91

Dwyer, J. G. & O'Gorman, P. A. 2017

Moist formulations of the Eliassen-Palm flux and their connection to the surface westerlies

*Journal of the Atmospheric Sciences* 74, 513-530

Xiang, G., Schlosser, C.A., O'Gorman, P. A., Monier, E., & Entekhabi, D. 2017

21st century changes in U.S. regional heavy precipitation frequency based on resolved atmospheric patterns

*Journal of Climate* 30, 2501-2521

Stansifer, E. M., **O'Gorman, P. A.** & Holt, J. I. 2017

Accurate computation of moist available potential energy with the Munkres algorithm

*Quarterly Journal of the Royal Meteorological Society* 143, 288-292

Byrne, M. P. & **O'Gorman, P. A.** 2016

Understanding decreases in land relative humidity with global warming: conceptual model and GCM simulations

*Journal of Climate* 29, 9045-9061

Shaw, T. A., Baldwin, M., Barnes, E. A., Caballero, R., Garfinkel, C.I., Hwang, Y.-T., Li, C., **O'Gorman, P.A.**, Riviere, G., Simpson, I.R., & Voigt, A. 2016

Storm track processes and the opposing influences of climate change

*Nature Geoscience* 9, 656-664

Singh, M. S. & **O'Gorman, P. A.** 2016

Scaling of the entropy budget with surface temperature in radiative-convective equilibrium

*Journal of Advances in Modeling Earth Systems* 8, 1132-1150

Schär, C. et al 2016

Percentile indices for assessing changes in heavy precipitation events

*Climatic Change* 137, 201-216

Donat, M. G., Lowry, A. L., Alexander, L. V., **O'Gorman, P. A.** & Maher, N. 2016

More extreme precipitation in the world's dry and wet regions

*Nature Climate Change* 6, 508-513

Byrne, M. P. & **O'Gorman, P. A.** 2015

The response of precipitation minus evapotranspiration to climate warming: Why the "wet-get-wetter, dry-get-drier" scaling does not hold over land

*Journal of Climate* 28, 8078-8092

Pfahl, S., **O'Gorman, P. A.** & Singh, M. S. 2015

Extratropical cyclones in idealized simulations of changed climates

*Journal of Climate* 28, 9373-9392

Singh, M. S. & **O'Gorman, P. A.** 2015

Increases in moist-convective updraft velocities with warming in radiative-convective equilibrium

*Quarterly Journal of the Royal Meteorological Society* 141, 2828-2838

**O'Gorman, P. A.** 2015

Changes in precipitation extremes under climate change

*Current Climate Change Reports* 1, 49-59

Booth, J. F., Polvani, L. M., **O'Gorman, P. A.**, & Wang, S. 2015

Effective stability in a moist baroclinic wave

*Atmospheric Science Letters* 16, 56-62

**O'Gorman, P. A.** 2014

Contrasting responses of mean and extreme snowfall to climate change

*Nature* 512, 416-418

- Ferreira, D., Marshall, J., **O'Gorman, P. A.**, & Seager, S. 2014  
Climate at high obliquity  
*Icarus* 243, 236-248
- Singh, M. S. & **O'Gorman, P. A.** 2014  
Influence of microphysics on the scaling of precipitation extremes with temperature  
*Geophysical Research Letters* 41, 6037-6044
- Byrne, M. P. & **O'Gorman, P. A.** 2013  
Link between land-ocean warming contrast and surface relative humidities in coupled climate-model simulations  
*Geophysical Research Letters* 40, 5223-5227
- Singh, M. S. & **O'Gorman, P. A.** 2013  
Influence of entrainment on the thermal stratification in simulations of radiative-convective equilibrium  
*Geophysical Research Letters* 40, 4398-4403
- Byrne, M. P. & **O'Gorman, P. A.** 2013  
Land-ocean warming contrast over a wide range of climates: convective quasi-equilibrium theory and idealized simulations  
*Journal of Climate* 26, 4000-4016
- O'Gorman, P. A.** & Singh, M. S. 2013  
Vertical structure of warming consistent with an upward shift in the middle and upper troposphere  
*Geophysical Research Letters* 40, 1838-1842
- Singh, M. S. & **O'Gorman, P. A.** 2012  
Upward shift of the general circulation of the atmosphere in response to global warming *Journal of Climate* 25, 8259-8276
- O'Gorman, P. A.** 2012  
Sensitivity of tropical precipitation extremes to climate change  
*Nature Geoscience* 5, 697-700
- O'Gorman, P. A.**, Allan, R. P., Byrne, M. P. & Previdi, M. 2012  
Energetic constraints on precipitation under climate change  
*Surveys in Geophysics* 33, 585-608
- O'Gorman, P. A.**, Lamquin, N., Schneider, T. & Singh, M. S. 2011  
The relative humidity in an isentropic advection-condensation model: Limited poleward influence and properties of subtropical minima  
*Journal of the Atmospheric Sciences*, 68, 3079-3093
- Muller, C. J. & **O'Gorman, P. A.** 2011  
An energetic perspective on the regional response of precipitation to climate change  
*Nature Climate Change* 1, 266-271
- Muller, C. J., **O'Gorman, P. A.** & Back, L. E. 2011  
Intensification of precipitation extremes with warming in a cloud resolving model  
*Journal of Climate* 24, 2784-2800
- O'Gorman, P. A.** 2011

The effective static stability experienced by eddies in a moist atmosphere  
*Journal of the Atmospheric Sciences* 68, 75-90

**O'Gorman, P. A.** 2010

Understanding the varied response of the extratropical storm tracks to climate change  
*Proceedings of the National Academy of Sciences* 107, 19176-19180

Schneider, T., **O'Gorman, P. A.** & Levine, X., 2010

Water vapor and the dynamics of climate changes  
*Reviews of Geophysics* 48, RG3001

Sherwood, S. C., Ingram, W., Tsushima, Y., Satoh, M., Roberts, M., Vidale, P. L. & **O'Gorman, P. A.**, 2010

Relative humidity changes in a warmer climate  
*Journal of Geophysical Research* 115, D09104

**O'Gorman, P. A.** & Muller, C. J. 2010

How closely do changes in surface and column water vapor follow Clausius-Clapeyron scaling in climate-change simulations?

*Environmental Research Letters* 5, 025207

Muller, C. J., Back, L. E., **O'Gorman, P. A.** & Emanuel, K. A., 2009

A model for the relationship between tropical precipitation and column water vapor  
*Geophysical Research Letters* 36, L16804

**O'Gorman, P.A.** & Schneider, T., 2009

Scaling of precipitation extremes over a wide range of climates simulated with an idealized GCM  
*Journal of Climate* 22, 5676-5685

**O'Gorman, P.A.** & Schneider, T., 2009

The physical basis for increases in precipitation extremes in simulations of 21st-century climate change

*Proceedings of the National Academy of Sciences* 106, 14773-14777

Schneider, T. & **O'Gorman, P.A.**, 2008

Moist convection and the thermal stratification of the extratropical troposphere  
*Journal of the Atmospheric Sciences* 65, 3571-3583

**O'Gorman, P.A.** & Schneider, T., 2008

Energy of midlatitude transient eddies in idealized simulations of changed climates  
*Journal of Climate* 21, 5797-5806

**O'Gorman, P.A.** & Schneider, T., 2008

The hydrological cycle over a wide range of climates simulated with an idealized GCM  
*Journal of Climate* 21, 3815-3832

**O'Gorman, P.A.** & Schneider, T., 2008

Weather layer dynamics of baroclinic eddies and multiple jets in an idealized general circulation model

*Journal of the Atmospheric Sciences* 65, 524-535

**O'Gorman, P.A.** & Schneider, T., 2007

Recovery of atmospheric flow statistics in a general circulation model without nonlinear eddy-eddy interactions

*Geophysical Research Letters* 34, L22801

Schneider, T., Smith, K.L., **O'Gorman, P.A.**, Walker, C.C. 2006

A climatology of zonal-mean moisture fields and fluxes in isentropic coordinates.

*Journal of Climate* 19, 5918-5933

**O'Gorman, P.A.** & Schneider, T., 2006

Stochastic models for the kinematics of moisture transport and condensation in homogeneous turbulent flows

*Journal of the Atmospheric Sciences* 63, 2992-3005

**O'Gorman, P.A.** & Pullin, D.I., 2005

Effect of Schmidt number on the velocity-scalar cospectrum in isotropic turbulence with a mean scalar gradient

*Journal of Fluid Mechanics* 532, 111 - 140

**O'Gorman, P.A.** & Pullin, D.I., 2004

On modal time correlations of turbulent velocity and scalar fields

*Journal of Turbulence* 5: Art. No. 35

**O'Gorman, P.A.** & Pullin, D.I., 2003

The velocity-scalar cross spectrum of stretched spiral vortices

*Physics of Fluids* 15, 280-291

### ***Proceedings:***

Schneider, T. & **O'Gorman, P.A.** 2007

Precipitation and its extremes in changed climates

in Extreme events Proceedings of the 15th 'Aha Huliko'a Hawaiian Winter Workshop, P. Muller, C. Garrett, and D. Henderson, Eds., 6166.

### **Invited Presentations**

University of Chicago, Rossbyalooza Keynote Lecture, 2024

AMS Atmosphere and Ocean Fluid Dynamics Conference (Haurwitz Memorial Lecture), 2024

Harvard Continental Climate Workshop, 2024

University of Washington, Graduate Student Distinguished Visiting Lecture, 2024

University of Washington, Departmental Seminar, 2024

8<sup>th</sup> ENES HPC workshop, 2024

Cornell Departmental Seminar, 2024

Princeton University, Departmental Seminar, 2023

MIT Generative AI Week, 2023

One World Mathematics of Climate seminar, 2023

Weizmann Institute, M. Magaritz Memorial Lecture, postponed  
Harvard University, Workshop on Continental Climate, 2023  
Stanford University, ESS Seminar, 2022  
Institute for Mathematical and Statistical Innovation, University of Chicago, 2022  
AGU Fall Meeting, 2021  
UN AI for Good: Accelerating Climate Science with AI, 2021  
University of Maryland, ESSIC Seminar, 2021  
CLIVAR Regional Climate Projections Workshop, 2021  
Penn State University, Departmental Colloquium, 2021  
UCLA, Departmental Colloquium, 2020  
Royal Society, London, 2020  
AGU Fall Meeting, 2019  
Harvard University, Departmental Colloquium, 2019  
Princeton University, Symposium in honor of Isaac Held, 2018  
MIT Environment-Sustainability Lunch Seminar, 2018  
Caltech Heising-Simons workshop on The Future of Earth System Modeling, 2018  
Caltech Environmental Science and Engineering seminar, 2017  
AGU Fall Meeting, 2017  
American Society of Civil Engineers (ASCE) workshop on Engineering Methods for Precipitation Under a Changing Climate, 2017  
University of Reading (U.K.) Department of Meteorology, 2016  
Columbia University, Extreme Weather and Climate Initiative Seminar, 2016  
Lamont Doherty Earth Observatory Colloquium, 2016  
University of Chicago, Department of the Geophysical Sciences, 2016  
Monash University (Melbourne, Australia) School of Earth, Atmosphere and Environment, 2015  
University of New South Wales (Sydney, Australia) Climate Change Research Centre, 2015  
University at Albany, Department of Atmospheric and Environmental Sciences, 2014  
McGill University, Department of Atmospheric and Oceanic Sciences, 2014  
MIT PAOC retreat, 2014  
Max Planck Institute for Meteorology (Hamburg), 2014  
Stonybrook University School of Marine and Atmospheric Sciences, 2014  
Geophysical Fluid Dynamics Laboratory (NOAA), 2014  
MIT Lorenz Center Workshop on Water in the Climate System, 2014

MIT EAPS IAP Lecture Series, 2014  
U.C. Berkeley, Atmospheric Science Seminar, 2013  
WCRP-GEWEX Strategy Workshop, CIRA, Fort Collins, 2013  
University of Wisconsin Madison, AOS Colloquium, 2013  
University of Wisconsin Milwaukee, Department of Physics, 2013  
Northeastern University, CEE Distinguished Seminar Series, 2013  
Two invited talks at AGU Fall Meeting, 2012  
WHOI Water-Cycle Workshop, 2012  
Yale University, Global Change Seminar, 2012  
Oxford University (U.K.) Department of Physics, 2012  
University of Reading (U.K.) Department of Meteorology, 2012  
Harvard University Workshop on Water Vapor, Convection, and Climate, 2012  
Bureau of Meteorology (Melbourne, Australia), 2012  
Monash University (Melbourne, Australia) School of Mathematical Sciences, 2012  
Keynote address Australian Meteorology and Oceanography Society (AMOS) conference, 2012  
Two invited talks at AGU Fall Meeting, 2011  
Lamont-Doherty Earth Observatory, 2011  
Columbia University SEAS Colloquium, 2011  
Colorado State University, Departmental Seminar, 2011  
ETH (Zurich, Switzerland) Departmental Seminar, 2011  
International Space Science Institute (Berne, Switzerland), 2011  
WHOI Departmental Seminar, 2010  
MIT Industrial Liaison Program, 2010  
Harvard ClimaTea, 2010  
Brown Departmental Seminar, 2010  
Joint Program Global Change MIT, 2009  
Columbia University SEAS Colloquium, 2009  
American Mathematical Society (Special Session on Mathematics of Climate Change), 2009  
Kavli Institute for Theoretical Physics UCSB (Workshop on the Physics of Climate Change), 2008  
Harvard ClimaTea, 2008  
John Hopkins University Departmental Seminar, 2007  
University of Chicago Departmental Seminar, 2007

Courant Institute NYU Departmental Seminar, 2007

MIT EAPS Departmental Seminar, 2007

UCLA Departmental Seminar, 2007

University of Washington Departmental Seminar, 2006

CSIRO (Melbourne, Australia) Departmental Seminar, 2005