Paul O'Gorman

Curriculum Vitae

Department of Earth, Atmospheric, and Planetary Sciences Massachusetts Institute of Technology 77 Massachusetts Avenue

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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

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

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)

Climate Science (PhD, 2021) Margaret Duffy

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

(Graduate course) Fall 2009, 2010, 2011; Spring 2013, 2014; Fall 2019

12.842 Climate Science

(Undergraduate and Graduate Course) Fall 2024

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, 2024)

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=dmi9J1IAAAAJ

van der Drift, R. J. & O'Gorman, P. A., 2025

Dependence of convective precipitation extremes on near-surface relative humidity *Journal of Climate* (submitted)

Kohl, M. & O'Gorman, P. A., 2025

Diabatic Rossby vortex world: Finite amplitude effects in moist cyclogenesis *Journal of the Atmospheric Sciences* (submitted)

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

Beucler, T. et al, 2024

Climate-invariant machine learning

Science Advances 10, eadj7250

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, Rossbypalooza 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

8th 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