

Current

2016 – Present **Goldman Distinguished Chair in the Physical Sciences**
University of California, Berkeley, CA

Associate Professor
Department of Earth and Planetary Science
University of California, Berkeley, CA

Faculty Scientist
Climate and Ecosystem Sciences Division
Lawrence Berkeley National Laboratory, Berkeley, CA

Director
Berkeley Atmospheric Sciences Center
University of California, Berkeley, CA

Education

1999 – 2005 **Harvard University**, Cambridge, MA **Ph.D., Physics**
Thesis: Holography and related topics in string theory

1995 – 1999 **Yale University**, New Haven, CT **B.S./M.S., Physics**
Magna cum laude **B.S., Mathematics**

Previous positions

2011 – 2016 **Assistant Professor**
Department of Earth and Planetary Science, UC Berkeley, CA

2008 – 2010 **Research Associate**
Department of Earth and Planetary Sciences, Harvard University, MA

2006 – 2008 **Environmental Fellow**
Center for the Environment, Harvard University, MA

2005 – 2006 **Postdoctoral Fellow**
Woods Hole Research Center, MA

Publications (group members in bold)

2018 C.J. Muller, **D.M. Romps**, “Acceleration of tropical cyclogenesis by self-aggregation feedbacks,” Proceedings of the National Academy of Sciences, in press, 2018

2018 **S.Q. Duan**, J.S. Wright, **D.M. Romps**, “On the utility (or futility) of using stable water isotopes to constrain the bulk properties of tropical convection,” Journal of Advances in Modeling Earth Systems, in press, 2018

- 2017 **D.M. Romps**, “An exact expression for the lifting condensation level,” *Journal of the Atmospheric Sciences*, vol. 74, no. 12, 3891–3900, 2017
- 2017 **J.P. Edman, D.M. Romps**, “Beyond the rigid lid: Baroclinic modes in a structure atmosphere,” *Journal of the Atmospheric Sciences*, vol. 74, no. 11, 3551–3566, 2017
- 2017 **D.M. Romps**, A.M. Vogelmann, “Methods for estimating 2D cloud size distributions from 1D observations,” *Journal of the Atmospheric Sciences*, vol. 74, no. 10, 3405–3417, 2017
- 2016 **D.M. Romps**, “Clausius-Clapeyron scaling of CAPE from analytical solutions to RCE,” *Journal of the Atmospheric Sciences*, vol. 73, no. 9, 3719–3737, 2016
- 2016 **J.T. Seeley, D.M. Romps**, “Tropical cloud buoyancy is the same in a world with or without ice,” *Geophysical Research Letters*, vol. 43, no. 7, 3572–3579, 2016
- 2016 **D.M. Romps**, “Reply to comments on “MSE minus CAPE is the true conserved variable for an adiabatically lifted parcel,”” *Journal of the Atmospheric Sciences*, vol. 73, no. 6, 2577–2583, 2016
- 2016 **D.M. Romps**, “The Stochastic Parcel Model: A deterministic parameterization of stochastically entraining convection,” *Journal of Advances in Modeling Earth Systems*, vol. 8, no. 1, 319–344, 2016
- 2016 **D.M. Romps, N. Jeevanjee**, “On the sizes and lifetimes of cold pools,” *Quarterly Journal of the Royal Meteorological Society*, vol. 142, no. 696, 1517–1527, 2016
- 2016 **N. Jeevanjee, D.M. Romps**, “Effective buoyancy at the surface and aloft,” *Quarterly Journal of the Royal Meteorological Society*, vol. 142, no. 695, 811–820, 2016
- 2015 **J.T. Seeley, D.M. Romps**, “Why does convective available potential energy (CAPE) increase with warming?,” *Geophysical Research Letters*, vol. 42, no. 23, 10429–10437, 2015
- 2015 **W. Langhans, D.M. Romps**, “The origin of water-vapor rings in tropical oceanic cold pools,” *Geophysical Research Letters*, vol. 42, no. 18, 7825–7834, 2015
- 2015 **D.M. Romps**, “MSE minus CAPE is the true conserved variable for an adiabatically lifted parcel,” *Journal of the Atmospheric Sciences*, vol. 72, no. 9, 3639–3646, 2015
- 2015 **D.M. Romps, R. Öktem**, “Stereo photogrammetry reveals substantial drag on cloud thermals,” *Geophysical Research Letters*, vol. 42, no. 12, 5051–5057, 2015
- 2015 **N. Jeevanjee, D.M. Romps**, “Effective buoyancy, inertial pressure, and the mechanical generation of boundary-layer mass flux by cold pools,” *Journal of the Atmospheric Sciences*, vol. 72, no. 8, 3199–3213, 2015

- 2015 **D.M. Romps, A.B. Charn**, “Sticky thermals: Evidence for a dominant balance between buoyancy and drag in cloud updrafts,” *Journal of the Atmospheric Sciences*, vol. 72, no. 8, 2890–2901, 2015
- 2015 **J.P. Edman, D.M. Romps**, “Self-consistency tests of large-scale-dynamics parameterizations for single-column modeling,” *Journal of Advances in Modeling Earth Systems*, vol. 7, no. 1, 320–334, 2015
- 2015 **R. Öktem, D.M. Romps**, “Observing atmospheric clouds through stereo reconstruction,” *IS&T/SPIE Electronic Imaging*, vol. 9393, 93930H-1, 2015
- 2015 **J.T. Seeley, D.M. Romps**, “The effect of global warming on severe thunderstorms in the United States,” *Journal of Climate*, vol. 28, no. 6, 2443–2458, 2015
- 2015 **W. Langhans, K. Yeo, D.M. Romps**, “Lagrangian investigation of the precipitation efficiency of convective clouds,” *Journal of the Atmospheric Sciences*, vol. 72, no. 3, 1045–1062, 2015
- 2014 **D.M. Romps, J.T. Seeley, D. Vollaro, J. Molinari**, “Projected increase in lightning strikes in the United States due to global warming,” *Science*, vol. 346, no. 6211, 851–854, 2014
- 2014 M. Duarte, A.S. Almgren, K. Balakrishnan, J.B. Bell, **D.M. Romps**, “A numerical study of methods for moist atmospheric flows: compressible equations,” *Monthly Weather Review*, vol. 142, no. 11, 4269–4283, 2014
- 2014 **D.M. Romps**, “An analytical model for tropical relative humidity,” *Journal of Climate*, vol. 27, no. 19, 7432–7449, 2014
- 2014 **R. Öktem, Prabhat, J. Lee, A. Thomas, P. Zuidema, D.M. Romps**, “Stereo photogrammetry of oceanic clouds,” *Journal of Atmospheric and Oceanic Technology*, vol. 31, no. 7, 1482–1501, 2014
- 2014 **J.P. Edman, D.M. Romps**, “An improved weak-pressure-gradient scheme for single-column modeling,” *Journal of the Atmospheric Sciences*, vol. 71, no. 7, 2415–2429, 2014
- 2014 **D.M. Romps**, “Rayleigh damping in the free troposphere,” *Journal of the Atmospheric Sciences*, vol. 71, no. 2, 553–565, 2014
- 2013 **N. Jeevanjee, D.M. Romps**, “Convective self-aggregation, cold pools, and domain size,” *Geophysical Research Letters*, vol. 40, 2013
- 2013 **K. Yeo, D.M. Romps**, “Measurement of convective entrainment using Lagrangian particles,” *Journal of the Atmospheric Sciences*, vol. 70, no. 1, 266–277, 2013
- 2012 **D.M. Romps**, “On the equivalence of two schemes for convective momentum transport,” *Journal of the Atmospheric Sciences*, vol. 69, no. 12, 3491–3500, 2012

- 2012 **D.M. Romps**, “Numerical tests of the weak pressure gradient approximation,” *Journal of the Atmospheric Sciences*, vol. 69, no. 9, 2846–2856, 2012
- 2012 **D.M. Romps**, “Weak pressure gradient approximation and its analytical solutions,” *Journal of the Atmospheric Sciences*, vol. 69, no. 9, 2835–2845, 2012
- 2012 J. Molinari, **D.M. Romps**, D. Vollaro, and L. Nguyen, “CAPE in tropical cyclones,” *Journal of the Atmospheric Sciences*, vol. 69, no. 8, 2452–2463, 2012
- 2011 **D.M. Romps**, Z. Kuang, “A transilient matrix for moist convection,” *Journal of the Atmospheric Sciences*, vol. 68, no. 9, 2009–2025, 2011
- 2011 **D.M. Romps**, “Response of tropical precipitation to global warming,” *Journal of the Atmospheric Sciences*, vol. 68, no. 1, 123–138, 2011
- 2010 P.N. Blossey, Z. Kuang, **D.M. Romps**, “Isotopic composition of water in the tropical tropopause layer in cloud-resolving simulations of an idealized tropical circulation,” *Journal of Geophysical Research*, vol. 115, D24309, 2010
- 2010 **D.M. Romps**, “A direct measure of entrainment,” *Journal of the Atmospheric Sciences*, vol. 67, no. 6, 1908–1927, 2010
- 2010 **D.M. Romps**, Z. Kuang “Nature versus nurture in shallow convection,” *Journal of the Atmospheric Sciences*, vol. 67, no. 5, 1655–1666, 2010
- 2010 **D.M. Romps**, Z. Kuang “Do undiluted convective plumes exist in the upper tropical troposphere?,” *Journal of the Atmospheric Sciences*, vol. 67, no. 2, 468–484, 2010
- 2009 **D.M. Romps**, Z. Kuang, “Overshooting convection in tropical cyclones,” *Geophysical Research Letters*, vol. 36, L09804, 2009
- 2008 **D.M. Romps**, “The dry-entropy budget of a moist atmosphere,” *Journal of Atmospheric Sciences*, vol. 65, no. 12, 3779–3799, 2008
- 2005 A. Simons, A. Strominger, D.M. Thompson (**D.M. Romps**), X. Yin, “Supersymmetric branes in $\text{AdS}_2 \times \text{S}^2 \times \text{CY}_3$,” *Physical Review D*, vol. 71, no. 6, 066008, 2005, hep-th/0406121
- 2004 D.M. Thompson (**D.M. Romps**), “AdS solutions to the 2D type 0A effective action,” *Physical Review D*, vol. 70, no. 10, 106001, 2004, hep-th/0312156
- 2004 A. Strominger, D.M. Thompson (**D.M. Romps**), “Quantum Bousso bound,” *Physical Review D*, vol. 70, no. 4, 044007, 2004, hep-th/0303067
- 2002 D.M. Thompson (**D.M. Romps**), “Descent relations in type 0A/0B,” *Physical Review D*, vol. 65, no. 10, 106005, 2002, hep-th/0105314