

# YI MING

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### Education

**Ph.D.** in Civil and Environmental Engineering  
**Princeton University** 2003  
**Certificate** in Science and Environmental Policy  
Woodrow Wilson School of Public and International Affairs, **Princeton University** 2003  
**B.E.** in Chemical Engineering (with a **second B.E.** in Environmental Engineering)  
**Tsinghua University**, Beijing, China 1998

### Employment

**Scientist**, NOAA/Geophysical Fluid Dynamics Laboratory 08/05-Present  
**Visiting Scientist**, NOAA/Geophysical Fluid Dynamics Laboratory 10/03-7/05  
**Postdoctoral Researcher**, Department of Chemistry, University of Delaware 11/02-9/03  
**Research Assistant**, Atmospheric Aerosol Group, Princeton University 09/98-10/02

### Honors

Presidential Early Career Award for Scientists and Engineers (PECASE) - “*The highest honor bestowed by the U.S. government on outstanding scientists and engineers beginning their independent careers*”  
Invited speaker at the 2009 Gordon Research Conference on Radiation & Climate  
National Science Foundation (NSF) Science Policy Fellowship 09/00-06/03  
First-Grade Prize, National Challenge Cup Science and Technology Competition for College Students 05/97

### Professional Experience

**Core Member**, Global Atmospheric Model Development Team (GAMDT), Geophysical Fluid Dynamics Laboratory  
**Member**, AeroCom working group of aerosol-climate simulation  
**Member**, AeroCom working group of indirect effects  
**Member**, Committee on cloud, chemical and climate interactions, Atmospheric Chemistry and Climate (AC&C) Initiative, WCRP/IGBP  
**Review Panelist**, Atmospheric Composition and Climate (ACC), NOAA Climate Program Office 10/07  
**Grant Reviewer**, Atmospheric Science Program (ASP), DOE  
**Grant Reviewer**, Atmospheric Radiation Measurement (ARM), DOE  
**Grant Reviewer**, Canadian Foundation for Climate and Atmospheric Sciences (CFCAS)  
**Journal Reviewer** for *Journal of Geophysical Research – Atmosphere*, *Geophysical Research Letter*, *Atmospheric Chemistry and Physics*, *Tellus*, *Journal of Applied Meteorology and Climatology*, *International Journal of Climatology*, *Theoretical and Applied Meteorology*, *Journal of Atmospheric Sciences*, *Atmospheric Research*.

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## Teaching Experience

**Co-instructor**, AOS 580 Special Topics: Aerosol, Climate and Climate Change, Atmospheric and Oceanic Sciences (AOS) Program, Princeton University

**Guest lecturer**, AOS 527 Atmospheric Radiative Transfer, Atmospheric and Oceanic Sciences (AOS) Program, Princeton University

## Peer-reviewed Publications

1. **Ming, Y.**, and L.M. Russell, 2001a: Predicted Hygroscopic Growth of Sea Salt Aerosol. *Journal of Geophysical Research -Atmosphere*, 106, 28259-28274.
2. Prenni, A.J., P.J. DeMott, S.M. Kreidenweis, D.E. Sherman, L.M. Russell and **Y. Ming**, 2001b: The Effect of Low Molecular Weight Dicarboxylic Acids on Cloud Formation, *Journal of Physical Chemistry A*, 105, 11240-11248.
3. **Ming, Y.**, and L.M. Russell, 2002a: Thermodynamic Equilibrium of Aqueous Solutions of Organic-Electrolyte Mixtures in Aerosol Particles. *AIChE Journal*, 48, 1331.
4. Russell, L.M., and **Y. Ming**, 2002b: Deliquescence of Small Particles, *Journal of Chemical Physics*, 116, 311-321.
5. **Ming, Y.**, and L.M. Russell, 2004a: Organic Aerosol Effects on Fog Droplet Spectra, *Journal of Geophysical Research –Atmosphere*, 109, 10.1029/2003JD004427.
6. **Ming, Y.**, G. Lai, C. Tong, R.W. Wood, and D.J. Doren, 2004b: Free Energy Perturbation Study of Water Dimer Dissociation Kinetics, *Journal of Chemical Physics*, 121, 773-777.
7. **Ming, Y.**, L.M. Russell, and D.F. Bradford, 2005a: Health and Climate Policy Impacts on Sulfur Emission Control, *Review of Geophysics*, 43, doi:10.1029/2004RG000167.
8. **Ming, Y.**, V. Ramaswamy, P.A. Ginoux and L.W. Horowitz, 2005b: Geophysical Fluid Dynamics Laboratory General Circulation Model Investigation of the Indirect Radiative Effects of Anthropogenic Sulfate Aerosol, *Journal of Geophysical Research - Atmosphere*, 110, doi:10.1029/2005JD006161.
9. **Ming, Y.**, V. Ramaswamy, P.A. Ginoux and L.W. Horowitz, 2005c: Direct Radiative Forcing of Anthropogenic Organic Aerosols, *Journal of Geophysical Research - Atmosphere*, 110, doi:10.1029/2004JD005573.
10. **Ming, Y.**, V. Ramasway, L.J. Donner, and V.T.J. Phillips, 2006: A New Parameterization of Cloud Droplet Activation Applicable to General Circulation Models, *Journal of the Atmospheric Sciences*, 63, 1348-1356.
11. **Ming, Y.**, V. Ramaswamy, L.J. Donner, V.T.J. Phillips, S.A. Klein, P.A. Ginoux, and L.W. Horowitz, 2007: Modeling the Interactions between Aerosols and Liquid Water Clouds with a Self-consistent Cloud Scheme in a General Circulation Model, *Journal of the Atmospheric Sciences*, 64, 1189-1209.
12. Lee, S. S., L. J. Donner, V. T. J. Phillips, and **Y. Ming**, 2008a: Examination of Aerosol Effects on Precipitation in Deep Convective Clouds during the 1997 ARM Summer experiment. *Quarterly Journal of the Royal Meteorological Society*, 134, 1201-1220.
13. Lee, S. S., L. J. Donner, V. T. J. Phillips, and **Y. Ming**, 2008b: The Dependence of Aerosol Effects on Clouds and Precipitation on Cloud-system Organization,

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- shear and stability. *Journal of Geophysical Research*, 113, D16202, doi:10.1029/2007JD009224.
14. **Ming, Y.**, and V. Ramaswamy, 2009: Nonlinear Climate and Hydrological Responses to Aerosol Effects. *Journal of Climate*, 22, 1329-1339.
  15. Magi, B. I., P. A. Ginoux, V. Ramaswamy, and **Y. Ming**, 2009: Evaluation of Tropical and Extratropical Southern Hemisphere African Aerosol Properties Simulated by a Climate Model. *Journal of Geophysical Research – Atmosphere*, doi:10.1029/2008JD011128.
  16. Quaas, J., **Y. Ming**, and coauthors, 2009: Aerosol Indirect Effects – General Circulation Model Intercomparison and Evaluation with Satellite Data. *Atmospheric Chemistry and Physics*, 9, 8697-8717.
  17. **Ming, Y.**, and coauthors, 2009: Transport of European Air Pollution Affects Arctic Climate. *Nature*, in review.
  18. **Ming, Y.**, V. Ramaswamy, and G. Persad, 2009: Opposing Effects of Absorbing Aerosols on Global-mean Precipitation. *Geophysical Research Letter*, submitted.
  19. **Ming, Y.**, and V. Ramaswamy, 2009: Aerosol-induced Changes in Tropical-mean Circulation. To be submitted to *Journal of Climate*.
  20. **Ming, Y.**, and V. Ramaswamy, 2009: Aerosol-induced Changes in Boreal Winter Extratropical Circulation. To be submitted to *Journal of Climate*.
  21. Persad, G., and **Y. Ming**, 2009: Tropical Tropospheric-only Response to Absorbing Aerosols: Implications for Forcing Calculation. To be submitted to *Geophysical Research Letter*.

### **Assessment Reports**

Contributing author, *Climate Projections Based on Emissions Scenarios for Long-Lived and Short-Lived Radiatively Active Gases and Aerosols*. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. H. Levy II, D. T. Shindell, A. Gilliland, M. D. Schwarzkopf, L. W. Horowitz, (eds.). Department of Commerce, NOAA's National Climatic Data Center, Washington, D.C., USA.

### **Book Chapters**

*Aerosols*. The Encyclopedia of Climate and Weather 2<sup>nd</sup> Edition. S. H. Schneider, (eds.). University of Oxford Press, New York, N.Y., USA.

### **Students/Postdocs Supervised**

Geeta Persad (Stanford University)