Eric M. Leibensperger Curriculum Vitae

State University of New York at Plattsburgh
Center for Earth and Environmental Science
101 Broad Street, Plattsburgh, NY 12901 · 518-564-4104
eric.leibensperger@plattsburgh.edu · http://facweb.plattsburgh.edu/eric.leibensperger

Education

Ph.D. in Applied Physics, School of Engineering and Applied Sciences, Harvard University, 2011
Thesis: Interaction of Air Quality and Climate: Consequences of US Emissions Controls
Advisor: Daniel J. Jacob

S.M. in Applied Physics, School of Engineering and Applied Sciences, Harvard University, 2007

B.A. (Magna Cum Laude) in Chemistry and Physics, Ithaca College, 2005

Positions Held

Assistant Professor, SUNY Plattsburgh, Center of Earth and Environmental Science
Fall 2012 - present

Postdoctoral Associate, Massachusetts Institute of Technology, Department of Earth, Atmospheric and Planetary Science
Spring 2011 - Fall 2012
Research Topic: Stratospheric transport and dynamics
Advisor: R. Alan Plumb

Graduate Research Assistant, Harvard University, School of Engineering and Applied Science
Fall 2005 - Spring 2011
Research Topic: Atmospheric chemistry and climate
Advisor: Daniel J. Jacob

Research Assistant, Ithaca College, Department of Physics
Summer 2005
Research Topic: Photometric modeling of asteroid Eros 443
Advisor: Beth Clark

Dana Intern/Undergraduate Research, Ithaca College, Department of Physics
Summer 2004 - Spring 2005
Research Topic: Composition of protostellar disks observed by the Spitzer Space Telescope
Advisor: Luke Keller

Lewis' Education and Research Collaborative Intern, NASA Glenn Research Center
Summer 2003
Research Topic: Synthesis of polyacenes through photoenolization
Advisor: Michael A. Meador

Teaching Experience

Assistant Professor, SUNY Plattsburgh, Department of Earth and Environmental Science

Courses:	GEL 291	Oceanography (Fall 2012, 2013)
	GEL 391	Phys. Oceanography and Limnology (Fall 2014)
	ENV/GEL 306	Atmospheric Processes (Fall 2012-2014; Spring 2013-2015)
	ENV 340	Env. Science Seminar (Fall 2012-2014; Spring 2013-2015)

Teaching Experience continued

	ENV 366	Global Climate Change (Gen. Ed.) (Spring 2014)
	ENV/GEL 406	Climate Change Science (Spring 2013, 2015)
Research Mentor:	10 Undergraduate Research Students (2 x Fall 2012; Spring 2013; Fall 2013; Spring 2014; Summer 2014; Fall 2014; 3 x Spring 2015)	

Module Co-author—Science Education Resource Center (SERC) at Carleton College

Interdisciplinary Teaching about Earth for a Sustainable Future (InTeGrate) module "Regulating Carbon Emissions to Mitigate Climate Change" with Pinar Batur (Vassar), Robyn Smyth (Bard), Curt Gervich (SUNY Plattsburgh), Gautam Sethi (Bard), and Sandra Penny (Bard) (2014-present)

Teaching Fellow—Harvard University

Courses:	EPS 208	Physics of Climate (Fall 2008)
	ES 6	Environmental Science and Technology (Spring 2008, Spring 2009 as head teaching fellow)
	EPS 133	Introduction to Atmospheric Chemistry (Fall 2007)

Research Co-Mentor—Harvard University

Summer Undergraduate Research Student (Summer 2008)
Research Experience for Undergraduates (Summer 2007)

As a Special Lecturer—Northeast States Air Use Management

The Science of Short-Lived Climate Forcers (training course for state air quality and climate planners)

Teaching Assistant—Ithaca College

Courses:	CHEM 332	Physical Chemistry II (Spring 2005)
	PHYS 102	Introduction to Physics II (Spring 2005)
	PHYS 101	Introduction to Physics I (Fall 2004)
	CHEM 124	Experimental Chemistry I (Spring 2004)
	CHEM 122	Principles of Chemistry II (Spring 2004)
	CHEM 121	Principles of Chemistry I (Fall 2003)
	CHEM 225	Experimental Chemistry II (Fall 2003)
	MATH 105	Math for Decision Making (Spring 2002–Spring 2005)
	MATH 111	Calculus I (Spring 2002–Spring 2004)

Honors and Awards

US Environmental Protection Agency Science to Achieve Results (EPA-STAR)
Graduate Research Fellowship, 2008–2011

Harvard University Certificate of Distinction in Teaching, 2008

Sigma Xi (Scientific Research Society), Spring 2005

Dana Internship Award at Ithaca College, Summer 2004

Sigma Pi Sigma (Physics Honor Society), Spring 2004

Ithaca College First Year Award in Mathematics, Spring 2002

Grimley Trust Scholarship, 2001-2005

Ithaca College Dean's Scholarship, 2001-2005

Curriculum Vitae

Eric M. Leibensperger

Professional Activities

Academic Peer Reviewer

Journals: Atmospheric Chemistry and Physics, Atmospheric Environment, Climate Dynamics, Climate Research, Climatic Change, Environmental Science & Technology, Geophysical Research Letters, Journal of Climate, Journal of Geophysical Research - Atmospheres, Nature Geoscience, Proceedings of the National Academy of Sciences of the United States of America, Scientific Reports

Grant Agencies: NASA, NOAA, U.K. Natural Environment Research Council

Professional Memberships: American Geophysical Union, American Meteorological Society

Outreach

Scientific Reviewer - Climate Literacy & Energy Awareness Network (CLEAN), 2013-present
Judge - Champlain Valley Regional Science Fair, 2013-2015
Earth and Environmental Science Club Lecture Series - "Air!", 2014
Earth Week Presentation - "Super Storms!", 2013

Publications

Fiore, A. M., V. Naik, and **E. M. Leibensperger** (in press)
"A Summary of the 45th A&WMA Critical Review: Air Quality and Climate Connections"
EM Magazine.

Fiore, A. M., V. Naik, and **E. M. Leibensperger** (in press)
"Critical Review: Air quality and connections"
J. Air Waste Manage.

Oswald, E., L.-A. Dupigny Giroux, **E. M. Leibensperger**, R. Poirot, and J. Merrell (in press)
"Climate controls on air quality in the Northeastern U.S.: An examination of summertime ozone statistics during 1993-2012"
Atmos. Environ.

Leibensperger, E. M. and R. A. Plumb (2014) "Effective diffusivity in baroclinic flow"
J. Atmos. Sci., 71(3), 972-984.

Barrett, S. R. H., S. H. L. Yim, C. K. Gilmore, L. T. Murray, S. R. Kuhn, A. P. K. Tai, R. M. Yantosca, D. W. Byun, F. Ngan, X. Li, J. Levy, A. Ashok, J. Koo, H. M. Wong, O. Dessens, S. Balasubramanian, G. G. Fleming, C. Wollersheim, R. Malina, M. N. Pearlson, S. Arunachalam, F. S. Binkowski, **E. M. Leibensperger**, D. J. Jacob, J. I. Hileman, and I. A. Waitz (2012)
"Public health, climate and economic impacts of desulfurizing jet fuel"
Environ. Sci. Technol. , 26, 4275-4282.

Leibensperger, E. M., L. J. Mickley, D. J. Jacob, W.-T. Chen, J. H. Seinfeld, A. Nenes, P. J. Adams, D. G. Streets, N. Kumar, and D. Rind (2012)
"Climatic effects of 1950-2050 changes in US anthropogenic aerosols - Part 2: Climate response"
Atmos. Chem. Phys., 12, 3349-3362.

Leibensperger, E. M., L. J. Mickley, D. J. Jacob, W.-T. Chen, J. H. Seinfeld, A. Nenes, P. J. Adams, D. G. Streets, N. Kumar, and D. Rind (2012)
"Climatic effects of 1950-2050 changes in US anthropogenic aerosols - Part 1: Aerosol trends and radiative forcing"
Atmos. Chem. Phys., 12, 3333-3348.

Publications continued

Tai, A. P. K., L. J. Mickley, D. J. Jacob, **E. M. Leibensperger**, L. Zhang, and J. A. Fisher (2012)
"Meteorological modes of variability for fine particulate matter ($PM_{2.5}$) air quality in the United States: Implications for $PM_{2.5}$ sensitivity to climate change"
Atmos. Chem. Phys., 12, 3131-3145.

Mickley, L. J., **E. M. Leibensperger**, D. J. Jacob, and D. Rind (2012)
"Removal of aerosol optical depths over the United States causes large regional warming in a transient 2010-2050 climate simulation"
Atmos. Environ., 46, 545-553.

Wang, Q., D. J. Jacob, J. A. Fisher, J. Mao, **E. M. Leibensperger**, C. C. Carouge, P. Le Sager, Y. Kondo, J. L. Jimenez, M. J. Cubison, and S. J. Doherty (2011)
"Sources of carbonaceous aerosols and deposited black carbon in the Arctic in winter-spring: Implications for radiative forcing"
Atmos. Chem. Phys., 11, 12453-12473.

Fisher, J. A., D. J. Jacob, Q. Wang, R. Bahreini, C. C. Carouge, M. J. Cubison, J. E. Dibb, T. Diehl, J. L. Jimenez, **E. M. Leibensperger**, M. B. J. Meinders, H. O. T. Pye, P. K. Quinn, S. Sharma, A. van Donkelaar, and R. M. Yantosca (2011)
"Sources, distribution, and acidity of sulfate-ammonium aerosol in the Arctic in winter-spring"
Atmos. Environ., 45, 7301-7318.

Murphy, D. M., J. C. Chow, **E. M. Leibensperger**, W. C. Malm, C. McDade, M. Pitchford, B. A. Schichtel, J. G. Watson, W. H. White (2011)
"Decreases in elemental carbon and fine particle mass in the United States"
Atmos. Chem. Phys., 11, 4679-4686.

Leibensperger, E. M., L. J. Mickley, D. J. Jacob, and S. R. H. Barrett (2011)
"Intercontinental influence of NO_x and CO emissions on particulate matter air quality"
Atmos. Environ., 45, 3318-3324.

Kopacz, M., D. L. Mauzerall, J. Wang, **E. M. Leibensperger**, D. K. Henze, and K. Singh (2011)
"Origin and radiative forcing of black carbon transported to the Himalayas and Tibetan Plateau"
Atmos. Chem. Phys., 11, 2837-2852.

Leibensperger, E. M., L. J. Mickley, and D. J. Jacob (2008)
"Sensitivity of US air quality to mid-latitude cyclone frequency and implications of 1980-2006 climate change"
Atmos. Chem. Phys., 8, 7075-7086.

Wu, S., L. J. Mickley, **E. M. Leibensperger**, D. J. Jacob, D. Rind, D. G. Streets (2008)
"Effects of 2000-2050 global change on ozone air quality in the United States"
J. Geophys. Res., 113, D06302, doi: 10.1029/2007JD008917.

Hudman, R. C., D. J. Jacob, S. Turquety, **E. M. Leibensperger**, L. T. Murray, S. Wu, A.B. Gilliland, M. Avery, T. H. Bertram, W. Brune, R. C. Cohen, J. E. Dibb, F. M. Flocke, A. Fried, J. Holloway, J. A. Neuman, R. Orville, A. Perring, X. Ren, G. W. Sachse, H. B. Singh, A. Swanson, and P. J. Wooldridge (2007)
"Surface and lightning sources of nitrogen oxides over the United States: magnitudes, chemical evolution, and outflow"
J. Geophys. Res., 112, D12S05, doi: 10.1029/2006JD007912.

Publications continued

Chen, C. H., B. A. Sargent, C. Bohac, K. H. Kim, **E. Leibensperger**, M. Jura, J. Najita, W. J. Forrest, D. M. Watson, G. C. Sloan, and L. D. Keller (2006)
"Spitzer IRS Spectroscopy of IRAS-Discovered Debris Disks"
Astrophys. J. Suppl. S., 166, 351-377.

Sloan, G. C., L. D. Keller, W. J. Forrest, **E. Leibensperger**, B. Sargent, A. Li, J. Najita, D. M. Watson, B. R. Brandl, C. H. Chen, J. D. Green, F. Markwick-Kemper, T. L. Herter, P. D'Alessio, P. W. Morris, D. J. Barry, P. Hall, P. C. Meyers, and J. Houck (2005)
"Mid-Infrared Spectra of Polycyclic Aromatic Hydrocarbon Emission in Herbig Ae/Be Stars"
Astrophys. J., 632, 956-963.

Select Presentations

Does air pollution impact U.S. drought? (oral)
Department of Atmospheric and Oceanic Science, McGill University: April 14, 2015

Anthropogenic aerosols and the evolution of U.S. droughts (oral)
American Geophysical Union Fall Meeting, San Francisco, CA: December 19, 2014

Anthropogenic aerosols and the dust bowl (poster by *undergraduate advisee Evan Cazavilan*)
American Geophysical Union Fall Meeting, San Francisco, CA: December 19, 2014

Does air pollution impact drought? Influence of sulfate and BC on U.S. climate (oral)
Lamont-Doherty Earth Observatory, Columbia University: December 5, 2014

Does air pollution impact U.S. drought? (oral)
New York State Section of the American Physical Society, SUNY Plattsburgh: September 26, 2014

Anthropogenic aerosols and the dust bowl (poster by *undergraduate advisee Evan Cazavilan*)
New York State Section of the American Physical Society, SUNY Plattsburgh: September 26, 2014

Speak for the trees: What can be learned from Champlain Valley tree core data (poster by *undergraduate advisee Ryan Revette*; w/ Jacob Straub [SUNY Plattsburgh])
New York State Section of the American Physical Society, SUNY Plattsburgh: September 26, 2014

Adirondack air chemistry and climate: Developing a collaborative partnership (oral)
SUNY 4E Network of Excellence Meeting, Binghamton University: May 2, 2014

Impact of non-CO_2 pollutants on US climate (oral)
Vermont Weather and Climate Group, University of Vermont: January 16, 2013

Connecting US air pollution to international air quality and climate change (oral)
Ithaca College Chemistry Seminar: March 27, 2012

Atmospheric composition and climate change (oral)
SUNY Plattsburgh Center for Earth and Environmental Science: February 29, 2012

Interactions between air quality and climate (oral)
Columbia University SEAS Colloquium in Climate Science: October 6, 2011

Climate effects of US anthropogenic aerosols (oral)
MIT Atmospheric Science Seminar Series: September 12, 2011

Select Presentations continued

Interactions between US air quality and climate (oral)
MIT Joint Program on the Science and Policy of Global Change: June 10, 2011

Interactions between air pollution and climate: The unintended consequences of cleaning our air (oral)
Ithaca College Physics Banquet: May 5, 2011

Climate effects of US aerosol sources: aerosol trends, radiative forcing, and climate response (oral)
5th International GEOS-Chem Meeting, Harvard University: May 3, 2011

Recent and projected climate consequences of improving US air quality (oral)
EPS Graduate Student and Postdoc Seminar, Harvard University: March 24, 2011

Climate response to 1950-2050 US aerosol trends (poster)
American Geophysical Union Fall Meeting, San Francisco, CA: December 17, 2010.

The science of short-lived climate forcers (oral)
Northeast States for Coordinated Air Use Management, Boston, MA: September 22, 2010.

Climate response to 1950-2050 US aerosol trends (poster)
International Commission on Atmospheric Chemistry and Global Pollution (CACGP)/International Global Atmospheric Chemistry Conference (IGAC), Halifax, NS, Canada: July 11, 2010

Climate response to changing United States aerosol sources (oral)
NOAA GFDL, Princeton, NJ: March 31, 2010

Climate response to changing United States aerosol sources (oral)
NASA GISS, New York, NY: February 12, 2010

Climate response to changing United States aerosol sources: historical and projected aerosol burdens using GEOS-Chem (oral)
GEOS-Chem Scientific and Users' Meeting, Cambridge, MA: April 7, 2009

Regional climate response to US aerosol sources (oral)
American Geophysical Union Fall Meeting, San Francisco, CA: December 19, 2008

Sensitivity of US air quality to mid-latitude cyclone frequency and implications of 1980-2006 climate change (poster)
American Geophysical Union Fall Meeting, San Francisco, CA: December 19, 2008

Trends in mid-latitude cyclone frequency and their effect on air quality (oral)
Global Change and Air Pollution Phase 2 Kick-off Meeting, Harvard University: October 12, 2007

Air quality degradation due to greenhouse warming decreasing the frequency of mid-latitude cyclones (poster)
GEOS-Chem Users' Meeting, Harvard University: April 11, 2007

Air quality degradation due to greenhouse warming decreasing the frequency of mid-latitude cyclones (poster)
EPA Workshop on Consequences of Global Change for Air Quality,
Research Triangle Park, NC: February 21, 2007