

Dr. Matthew J. Evans

Department of Chemistry
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EDUCATION

Ph.D. Geochemistry, Department of Earth & Atmospheric Sciences Cornell University, 2003
Dissertation title: *Geothermal fluxes of solutes, carbon, and heat to Himalayan rivers.*
M.S. Geochemistry, Department of Earth & Atmospheric Sciences Cornell University, 1997
Thesis title: *Geochemistry of an Early Proterozoic (Birimian) greenstone belt, West Africa*
B.A. Geology, Middlebury College, Department of Geology, 1994
Thesis title: *Geochemistry of meta-volcanic rocks of north-central Vermont*

PROFESSIONAL EXPERIENCE

Robert C. and Mary P. Brown '43 Chair in Urban Planning and Environment	2020-2025
Chair, Department of Chemistry, Wheaton College	2019-present
Professor of Chemistry, Wheaton College	2020-present
Associate Professor of Chemistry, Wheaton College	2013-2020
Assistant Professor of Chemistry, Wheaton College	2007-2013
Assistant Professor of Geology, The College of William and Mary	2005-2007
Postdoctoral Researcher, Oak Ridge National Laboratory	2003-2005
Visiting Assistant Professor, Hamilton College	2002-2003
Research Assistant, Cornell University	2000-2002
Lecturer in Geology, Hartwick College	August 1998

FELLOWSHIPS AND GRANTS**NSF Office of Polar Program, Arctic Glaciology (declined 2015)**

Collaborative Research: Surface Mass Balance of Amundsen Ice Shelves: Quantifying Recent Changes and Investigating the Marine Influence Using Records From Coastal West Antarctica with S. Das, W. Guo and C. Linder (Woods Hole Oceanographic Institution), K. Frey (Clark University), and B. Smith (University of Washington).

NSF Division of Undergraduate Education, IUSE (declined 2015)

Collaborative Research: Infusing Climate Change Research into College Science curriculum through the Undergraduate Carbon Observatory Network (UCON) with J. Schade and S. Natali (Woods Hole Research Center), M. Loranty (Colgate University), R. Barnes (Colorado College), D. Hernandez (Carleton College), D. Fischer, A. Biswas, C. LeRoy, and E. Martin (Evergreen State College).

NSF Office of Polar Programs, Arctic Natural Sciences Program (awarded 2012): \$943,326

Collaborative Research: Investigating the Influence of Sea-surface Variability on Ice Sheet Mass Balance and Outlet Glacier Behavior using Records from Disko Bugt, West Greenland with S. Das (Lad PI, Woods Hole Oceanographic Institution), K. Frey (Clark University), and B. Smith (University of Washington); \$139,105 to Wheaton.

NSF: Major Research Instrumentation (awarded 2011): \$36,179

MRI: Acquisition of an Ion Chromatograph to Support Research and Undergraduate Education. M. J. Evans, PI, Wheaton College.

NASA: Interdisciplinary Research in Earth Science (awarded 2010): \$707,112

An interdisciplinary study of recent ice sheet melt, sea ice decline, and enhanced ocean biological productivity along the Amundsen Coast, West Antarctica, with S. Das (PI, Woods Hole Oceanographic Institution), K. Frey (co-PI, Clark University); \$96,904 to Wheaton.

NSF Division of Undergraduate Education, CCLI- Type 1 (declined 2009):

Collaborative Research: Undergraduate carbon cycle research: field experience and remote real time collaboration with L. Derry and A. Moore, (Cornell University).

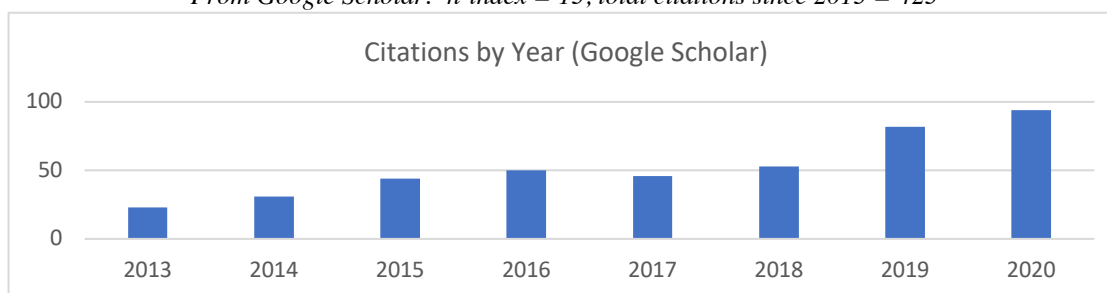
NSF: Geobiology & Low-Temperature Geochemistry (awarded 2009): \$257,000 Collaborative Research: *Quantifying CO₂ fluxes along the Himalayan arc*, with L. Derry (Cornell University); \$109,880 to Wheaton.

WHEATON COLLEGE INTERNAL GRANTS:

Faculty Summer Research Grant (2019)	\$3000
Faculty Scholarship Supplemental Funds (2018)	\$1200
Faculty-Student Summer Research Grant (2018)	\$3000
Faculty Summer Research Grant (2017)	\$3000
Funds for Innovations with Academic Technology, Wheaton College (2012):	\$8028

PUBLICATIONS: *student author

From Google Scholar: *h-index* = 13, total citations since 2013 = 423



- M. Osman*, S. B. Das, L. D. Trusel, **M. J. Evans**, H. Fischer, M. M. Grieman, S. Kipfstuhl, J. R. McConnell, and E. S. Saltzman (2019), *Industrial-era decline in subarctic Atlantic productivity*. *Nature*, **569**, (551–555), doi:10.1038/s41586-019-1181-8.
- L. D. Trusel, S. B. Das, M. B. Osman*, **M. J. Evans**, B. E. Smith, X. Fettweis, J. R. McConnell, B. P. Y. Noël, M. R. van den Broeke (2018) *Nonlinear rise in Greenland runoff in response to post-industrial Arctic warming*, *Nature*, **564**, 104–108, doi:10.1038/s41586-018-0752-4.
- M. Osman*, S. B. Das, O. Marchal, **M. J. Evans** (2017) *Methanesulfonic acid (MSA) migration in polar ice: Data synthesis and theory*, *The Cryosphere*, **11**, 2439–2462, doi: 10.5194/tc-11-2439-2017.
- A. S. Criscitiello S. Marshall, **M. J. Evans**, C. Kinnard, A. Norman, M. Sharp (2016) *Influence of tropical-Arctic teleconnections on ice core marine aerosol records from Prince of Wales Icefield, Ellesmere Island, Nunavut, Canada*, *Journal of Geophysical Research Atmospheres*, **121** (16), 9492–9507, doi: 10.1002/2015JD024457.
- D. Pasteris*, J. R. McConnell, S. B. Das, A. S. Criscitiello, **M. Evans**, O. Maselli, M. Sigl, L. Layman (2014) *Seasonally resolved ice core records from West Antarctica indicate a sea ice source of sea salt aerosol and a biomass burning source of ammonium*, *Journal of Geophysical Research*, **119** (14), 9168–9182, doi: 10.1002/2013JD020722.
- A. S. Criscitiello*, S. B. Das, K. B. Karasauskas, **M. J. Evans**, K. E. Frey, I. Joughin, E. J. Steig, J. R. McConnell, B. Medley (2013) *Tropical Pacific influence on source and transport of marine aerosols to West Antarctica*, *Journal of Climate*, **27**, 1343–1363, doi: 10.1175/JCLI-D-13-00148.1
- A. S. Criscitiello*, S. B. Das, **M. J. Evans**, K. E. Frey, H. Conway, I. Joughin, B. Medley, E. J. Steig (2013), *Ice sheet record of recent polynya variability in the Amundsen Sea and Pine Island Bay, West Antarctica*, *Journal of Geophysical Research-Oceans*, **188**, 1–13, doi:10.1029/2012JC008077.
- L. A. Derry, **M. J. Evans**, R. Darling, C. France-Lanord (2009), *Hydrothermal heat flow near the Main Central Thrust, central Nepal Himalaya*, *Earth and Planetary Science Letters*, **286**, 101–109.
- M. J. Evans**, L. A. Derry, C. France-Lanord (2008), *Degassing of metamorphic carbon dioxide from the Nepal Himalaya*, *Geochemistry, Geophysics, Geosystems*, **9** (4), 1–18, Q04021,
- K. Attoh, **M. J. Evans**, and M. E. Bickford (2006), *Geochemistry of an ultramafic-rodningite rock association in the Paleoproterozoic Dixcove greenstone belt, southwestern Ghana*, *Journal of African Earth Sciences*, **45** (3), 333–346.
- M. J. Evans**, L. A. Derry, C. France-Lanord (2004), *Geothermal fluxes of alkalinity in the Narayani river system of central Nepal*, *Geochemistry, Geophysics, Geosystems*, **5** (8), 1–21, Q08011, doi:10.1029/2004GC000719.
- C. France-Lanord, **M. Evans**, J.E. Hurtrez, J. Riotte (2003), *Annual dissolved fluxes from Central Nepal rivers: budget of chemical erosion in the Himalayas*, *Comptes Rendus Geoscience*, **335** (16), 1131–1140.
- J. Kim, R. Coish., **M. Evans**, G. Dick (2003), *Supra-subduction zone extensional magmatism in Vermont and adjacent Quebec: Implications for early Paleozoic Appalachian tectonics*, *GSA Bulletin*, **115** (12), 1552–1569.
- M. J. Evans**, L. A. Derry (2002), *Quartz control of high germanium--silicon ratios in geothermal waters*, *Geology*, **30** (11), 1019–1022.
- M. J. Evans**, L. A. Derry, S. P. Anderson and C. France-Lanord (2001), *A hydrothermal source of radiogenic Sr to Himalayan rivers*, *Geology*, **29** (9), 807–810.

SELECTED CONFERENCE PROCEEDINGS:

- Evans, M. J.**, *McElwee, G., Derry, L. A., & France-Lanord, C. (2019). *Hydrothermal Heat Flow and CO₂ Degassing Along the Himalayan Arc*. AGU Fall Meeting 2019. AGU.
- Osman, M.* , Das, S. B., Marchal, O., & **Evans, M. J.** (2017). *Post-depositional migration and signal reconstruction of methanesulfonic acid (MSA) in polar ice cores*. EGU General Assembly Conference Abstracts, 19, 11500.
- Osman, M.* , Das, S. B., Trusel, L. D., McConnell, J. R., **Evans, M. J.**, Saltzman, E. S., & Grieman, M. (2017). *North Atlantic sea-surface variability reflected in an array of Greenlandic methanesulfonic acid (MSA) records*. EGU General Assembly Conference Abstracts, 19, 11437.
- Das, S. B., Osman, M. B., Trusel, L. D., McConnell, J. R., Smith, B. E., **Evans, M. J.**, Chellman, N. (2017). *Towards multi-decadal to multi-millennial ice core records from coastal west Greenland ice caps*. EGU General Assembly Conference Abstracts, 19, 11372.
- Trusel, L. D., Das, S. B., Osman, M. B., **Evans, M. J.**, Smith, B., McConnell, J., ... van den Broeke, M. R. (2016). *Rise in central west Greenland surface melt unprecedented over the last three centuries*. AGU Fall Meeting Abstracts.
- Osman, M.* , Marchal, O., Guo, W., Das, S. B., & **Evans, M. J.** (2015). *Post-depositional migration and preservation of methanesulfonic acid (MSA) in polar ice cores*. AGU Fall Meeting Abstracts.
- York, A.* , Frey, K. E., Das, S. B., **Evans, M. J.**, Gardner, A. S., Smith, B. E., & Trusel, L. D. (2014). *Assessing the influence of sea ice conditions on outlet glacier retreat in Disko and Ummannaq Bays, West Greenland*. AGU Fall Meeting Abstracts, 1, 0443.
- Das, S. B., **Evans, M. J.**, Frey, K. E., Osman, M. B., Smith, B. E., Stevens, L. A., Bingham, M. (2014). *Using Coastal Ice Cap Records to Investigate Maritime Climate and Ice Sheet Processes in West Greenland*. AGU Fall Meeting Abstracts, 1, 0434.
- M. J. Evans**, M. Kuhn*, E. Medeiros*, C. Petersen*, M. Sexton*, L. Thompson*, *Chemical Weathering and Hot Springs in the Bhutan Himalaya*, GSA Annual Meeting, Charlotte, NC, November 2012.
- L. M. Thompson*, **M. J. Evans**, K. Frey, S. Das, *Glaciochemistry of a Shallow Ice Core from the West Antarctic Ice Sheet: Sources and Implications*, GSA Annual Meeting, Charlotte, NC, November 2012.
- A. Criscitiello*, S. Das, K. Karnauskas, **M. Evans**, K. Frey, I. Joughin, E. Steig, J. McConnell, *Tropical Pacific influence on source and transport of marine aerosols to West Antarctica*, International Partnerships in Ice Core Sciences Open Science Conference, Presqu'île de Giens, France, October 2012.
- Das, S.B. , I. Joughin, A.S. Criscitiello, B. Medley, H. Conway, **M. J. Evans**, K. E. Frey, J. McConnell, E. Steig, L. Trusel, *Ice core records of 20th century climate change along the Amundsen Sea Embayment, West Antarctica*, International Partnerships in Ice Core Sciences Open Science Conference, Presqu'île de Giens, France, October 2012.
- M. J. Evans**, C. Petersen*, *Chemical Weathering in the Eastern Himalaya: Geochemistry of Bhutanese Rivers*, AGU Fall Meeting, San Francisco, CA, December 2011.
- A. S. Criscitiello, S. Das, **M. Evans**, K. Frey, I. Joughin, B. Medley, H. Conway, *Sea-ice behavior and biological productivity in the Amundsen Sea: New insight from West Antarctic Ice Sheet records*, AGU Fall Meeting, San Francisco, CA, December 2011.
- C. Petersen*, **M. J. Evans**, *Geochemistry and Chemical Weathering Budgets for Himalayan Rivers of Bhutan*, NEGSA Annual Meeting, Pittsburgh, PA, March 2011. (Student Poster Award Winner).

STUDENT RESEARCH MENTORING:

Informal research mentor, Matthew Osman, Woods Hole/MIT Joint Program
Ph.D. committee member, Alison Criscitiello, Woods Hole/MIT Joint Program (2010-2013)

Wheaton Senior Honors Theses:

- Madeline Hatch (2016) “*Sulfur Deposition on the Greenland Ice Sheet: Sources and Implications of MSA and Sulfate since 1900*” (Waters corporation, M.S. chemistry to begin Fall 2020)
- McKenzie Kuhn (2015) “*Methane Dynamics in Vernal Pools*”(Ph.D. candidate, University of Alberta)
- Matthew Sexton (2014) “*Behavior and Occurrence of Organic Acids in Antarctic Ice: Formic, Acetic, and Methanesulfonic Acid*”
- Lauren Thompson (2012) “*Glaciochemistry of a Shallow Ice Core from the West Antarctic Ice Sheet: Sources and Implications*” (M.S. Chemistry, Ph.D. candidate, Dalhousie University)
- Aurelie Marcotte (2010) “*Determining Methanesulfonic Acid Levels in a Greenland Ice Core*” (Ph.D. Arizona State University, 2015)
- Sam Beal (2009) “*Chemical Weathering Along the Greenland Ice Sheet Margin*” (Ph.D. Dartmouth College, 2014)

Minor committee member: Claire Hammond, Physics (2020), Elizabeth Pugliese, Chemistry (2020), Sophie Nerone, (Biochemistry, 2020), Kira Olander, Bioinformatics (2019), Catrina Oberg, Chemistry (2019), Kristy Sullivan, Biology (2018), Michelle Laverriere, Biology (2018), Anne Bennet, Biology (2014), Sara Moore, Biology (2014), Mark Anderson, Political Science, (2012), Noemie Goff-Pochat, Physics, (2010), Megan O'Sadnick, Physics (2009), Julia Dekermendjian, Chemistry (2009) Jonathan Kay, Physics (2008)

INDEPENDENT RESEARCH STUDENTS (SINCE TENURE):

Name	Class	X99 or Summer	Major	Current
James Clancy	2020	F19, Sp19, F18, Sp18	Environmental Science	Associate Environmental Specialist at Eversource Energy
Trixi Li	2020	F19, Sp19, F18	Chemistry	Applying to graduate programs
Michael Daring	2020	F19, F18	Environmental Science	Analytical Chemist at Alpha Analytical
Lillie Shepard	2020	F19	Chemistry	Current student
Mackenzie Chiudina	2020	Summer 18	Chemistry	Process Development Associate at Broad Institute
Carina Sclafani	2020	Sp17	Biochemistry	Postbaccalaureate IRTA Fellow at NIH
Lisa Cicchitti	2018	F17	Biochemistry	Environmental Technician III at State of Vermont
Sam Zarfos	2017	Sp17, Summer 16	Environmental Science	University of Tasmania, Ph.D. program, Research Technician at The Wellman Center for PhotoMedicine at MGH NOW
Sierra Luciano	2017	Sp17	Chemistry	Content Manager, Clinical Sciences at TriNetX, Inc., Analyst, Corporate Strategy at MPM Capital
Maddy Lahm	2019	F16	Chemistry	M.S. program, University of Maryland Center for Environmental Science
Zhao Li	2017	Summer 16, F16	Environmental Science	Rutgers Athletics Marketing & Promotions Internship
Maddie Hatch	2016	Sp16, F15, Summer 15, Summer 14	Chemistry	LC Technical Service Specialist at Waters Corporation, starting MS program Fall 2020
Forest Smock	2015	Summer 15	Biology	Wilderness Field Instructor
McKenzie Kuhn	2015	Sp15, F14, Summer 13	Environmental Science	Ph.D. candidate, University of Alberta
Walker Fuchs	2016	Summer 14, F14	Biochemistry	Ph.D. candidate, Yale University
Magge McDonough	2015	F14	Environmental Science	Chemistry Technician, Smithers Viscient; Senior Associate, Initiative for a Competitive Inner City (ICIC)
Katrina Fernald	2016	Summer 14, F14	Biology	graduate program in Forestry, Iowa State University
Matthew Sexton	2014	Sp14, 13, Summer 13	Chemistry	Senior Clinical Trial Associate, Ora Inc.
Sarah Erskine	2015	S14	Environmental Science	Chemist, MA Water Resource Authority, Science Teacher

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

Geochemical Society
 Geological Society of America
 American Geophysical Union

TEACHING EXPERIENCE:

Courses taught:

Chem153: Chemical Principles and lab; Chem232 Aqueous Equilibria and lab; Chem321: Chemistry of Natural Waters and lab, Chem332 Instrumental Analysis and lab; Chem400: Chemistry Senior Seminar
ESCI398: Geology of Iceland (new faculty-led course developed with Geoff Collins, physics)
FYS: Shake and Bake (First-year seminar); FYS: Water (First-year seminar)
Chem105 Science of the Earth System; Chem303 Current Problems in Environmental Chemistry

COLLEGE AND DEPARTMENTAL SERVICE

Committee membership

Chair, Chemistry Department, July 2019-present
Member, Committee on Committees and Agenda (2017-present, Chair 2018-2019, 2019-2020)
Member Honorary Degree Committee (2017-present, Chair 2020-2021)
Member, Global Advisory Committee (2009–2011; 2017-2020)
Member, Legislation subcommittee (2019-present)
Member Committee on Faculty Workload & Economic Status (2010–2012)
Member, Bhutan Working Group (2009–2011)
Untenured Faculty Organization (UFO) Steering Committee: Natural Sciences Divisional Liaison (2007–2009)
Coordinator (2009–2010), Coordinator (2012–2013)
Member Evaluation Subcommittee of the Education Policy Committee (2007–2009)
Member Provost Search Committee (2009)
Chemistry Department Search Committees (2007–2008; 2014-2015; 2015-2016, 2017)

Other service/activities:

Visiting Day STEM/Chemistry Sessions: 2016-present
OER library workshop week facilitator, 2019
Chemistry Department Seminar, Clark University, 2018
Faculty presenter, WheaLead Program, 2016, 2017
Alumni College talk “Accelerating Losses”, May 2019
Reviewer, Davis International Fellowship Applications, 2015-2018
WIIH seminar, “Polar Opposites”, 2014