26 E. Main Street
Norton, Massachusetts
02766-2322

Dr. Matthew J. Evans
Department of Chemistry phone: (508) 286 3967 evans_matthew@wheatoncollege.edu

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

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), and M. J. Evans (co-PI, Wheaton College), $96,904 to Wheaton.

NSF: Geobiology & Low-Temperature Geochemistry (awarded 2009): $257,000

Collaborative Research: Quantifying CO_2 fluxes along the Himalayan arc, with L. Derry (PI, Cornell University) and M. J. Evans (PI, Wheaton College), $109,880 to Wheaton.

WHEATON COLLEGE INTERNAL GRANTS:

Faculty Summer Research Grant (2019; 2021; 2022)	$3000
Faculty-Student Summer Research Grant (2018)	$3000
Faculty Scholarship Supplemental Funds (2018)	$1200

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PUBLICATIONS: **student author*

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: 10.1002/2013JD02072.

A. S. Criscitiello*, S. B. Das, K. B. Karnauskas, **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.

SELECTED CONFERENCE PROCEEDINGS:

Evans, M. J., *McElwee, G., Derry, L. A., & France-Lanord, C. (2019). *Hydrothermal Heat Flow and CO_2 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.

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

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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)