

MICHAEL N. GOOSEFF

Curriculum Vitae

Professor

Institute of Arctic & Alpine Research

Civil, Environmental & Architectural Engineering Dept.

University of Colorado

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Web: <http://goosefflab.weebly.com>**EDUCATION**

- Ph.D., 2001 Civil Engineering, University of Colorado, Boulder, CO
Dissertation: *Modeling Hyporheic Exchange Influences on Biogeochemical Processes in Dry Valley Streams, Antarctica*, Advisor: Dr. Diane McKnight
- M.S., 1998 Civil Engineering, University of Colorado, Boulder, CO
Thesis: *The Effects of Climate Change on Water Temperature of Alpine Rivers*
Advisor: Dr. Kenneth Strzepak
- B.C.E., 1996 Civil Engineering, Georgia Institute of Technology, Atlanta, GA

PROFESSIONAL EXPERIENCE

- 2018- Professor, Civil, Env. & Arch. Engineering, Univ. of Colorado
- 2015-2018 Associate Professor, Civil, Env. & Arch. Engineering, Univ. of Colorado
- 2015- Fellow of the Institute of Arctic & Alpine Research (INSTAAR), Univ. of Colorado
- 2013-2015 Associate Professor, Civil & Environmental Engineering, Colorado State Univ.
- 2011-2013 Associate Professor, Civil & Environmental Engineering, Pennsylvania State Univ.
- 2007-2011 Assistant Professor, Civil & Environmental Engineering, Pennsylvania State Univ.
- 2004-2007 Assistant Professor, Geology & Geological Engineering, Colorado School of Mines
- 2002-2004 Assistant Professor, Aquatic, Watershed, and Earth Resources, Utah State University
- 2001-2002 Postdoctoral Researcher, Department of Geosciences, Oregon State University
- 1996-1998 Assistant Environmental Planner, Hydrosphere Resource Consultants, Boulder, CO
- 1994 Assistant Project Engineer, GEDCO Group, Inc., Smyrna, GA

LICENSURE

Engineer In Training Certification (aka Fundamentals of Engineering) #18279, State of GA, 1996

TEACHING**UNIVERSITY CLASSES**

- Applied Stream Ecology (grad; CU: Fa2021)
- Ecology, Ecohydraulics, and Environmental Hydrology of Streams: Field Methods & Theory (grad; PSU: Sp2008)
- Ecological Engineering (grad; PSU: Fa2009)
- Fluid Mechanics (undergrad; PSU: Sp2008, Sp2009, Fa2009, Fa2011; CU: Sp2021)
- Groundwater Hydrology (grad; CSU: Fa2014)
- Hydraulic Engineering (undergrad; CU: Fa2019)
- Initiating Your Academic Career (grad; PSU: Fa2008, Fa2009, Fa2010, Fa2011, Fa2012; CU: Fa2016)
- Introduction to Civil Engineering (undergrad; CSU: Fa2013, Fa2014)
- Open Channel Hydraulics (undergrad; PSU: Sp2009, Sp2010, Sp2011, Sp2012; CU: Sp2017, Sp2018)
- Physical Hydrology (grad; CU: Fa2015, Fa2016, Fa2017, Fa2018, Fa2019, Fa2020, Fa2021)
- Small Watershed Hydrology (undergrad; USU: Sp2003, Fa2003)
- Snow Hydrology (grad; USU: Sp2004; CSM: Sp2006)
- Surface Water-Groundwater Interactions (grad; CSU: Sp2015; CU: Fa2020)

- Surface Water Hydrology (undergrad; CSM: Fa2005, Fa2006)
- Surface Water Quality Modeling (grad; PSU: Fa2008, Sp2011; CSU: Fa2013; CU: Sp2017)
- Sustaining River Hydroecosystems (grad; CSU: Fa2014)

WORKSHOPS FOR THE SCIENTIFIC COMMUNITY

- 2017 Using In-Situ Water Quality Sensors: Lagrangian and Eulerian Applications (CUAHSI), co-organizer with M Cohen, University of Florida [\[link\]](#)
- 2016 Techniques for Stream-Groundwater Investigations (CUAHSI), co-organizer with K Singha; Crested Butte, CO [\[link\]](#)
- 2013 Techniques for Stream-Groundwater Investigations (CUAHSI), co-organizer with K Singha; Penn State University [\[link\]](#)

AWARDS AND HONORS

- *Research Development Award*, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 2019
- *Fellow*, Geological Society of America, 2017
- Appointed to the Polar Research Board of the National Academies for 3 year term (2017-2020)
- Lead Principal Investigator of the McMurdo Dry Valleys Long-Term Ecological Research Project, 2015 - present
- Outstanding Teaching Award, 2011 (Penn State Engineering Alumni Society [PSEAS])
- Harry West Teaching Award, 2011-2012 (Department of Civil & Environmental Engineering, Penn State University)
- National Academy of Engineering Frontiers in Engineering Education Symposium, 2011 (one of 65 selected participants from Engineering programs across the US)
- UCOWR Award for Education and Public Service to the MOCHA team, 2011
- Hartz Family Development Professorship at Penn State, 2007-2010
- Outstanding Faculty Mentor, 2004 (Utah State University)
- Awards received by advisees:
 - Adam Wlostowski (PhD, CU)
 - Horton Research Award, American Geophysical Union, Hydrology Section, 2015;
 - Outstanding Student Presentation Award, American Geophysical Union, Fall Meeting 2014.
 - Adam Ward (PhD, PSU)
 - Penn State Graduate School & Office of the V.P. and Dean for Undergraduate Education, the Harold F. Martin Graduate Assistant Outstanding Teaching Award, 2010.
 - Best Presentation Emphasizing Methodology, North American Benthological Society Annual Meeting, 2010.
 - Outstanding Student Paper Award in Hydrology. American Geophysical Union, Fall Meeting, 2009.
 - Consortium of Universities for the Advancement of Hydrologic Science, Inc., First Place in the Hydrograf(x) competition for Visualization in the Hydrologic Sciences, 2009.
 - Best Presentation Emphasizing Methodology, North American Benthological Society Annual Meeting, 2009.
 - Penn State Graduate Exhibition, First Place Presentation, Engineering Division, 2009.
 - Robert Payn (PhD, CSM) Outstanding Student Paper Award in Hydrology. American Geophysical Union, Fall Meeting, 2008.

- Christa Kelleher (MS, PSU) Penn State Office of Graduate Studies, Research and Outreach (OGSRO) Research Assistantship (1 semester), 2008

FUNDED GRANTS

\$30M+ in total collaborative research projects since 2003; most significant grants included; full listing is available at my web page. Lead PI is noted in **bold font**.

1. *LTER: Ecosystem response to amplified landscape connectivity in the McMurdo Dry Valleys, Antarctica* <http://mcmlter.org>
Principal Investigators: **Michael Gooseff**, Byron Adams (BYU), Jeb Barrett (Virginia Tech), Peter Doran (LSU), Adrian Howkins (Bristol Univ), Diane McKnight (CU), Rachael Morgan-Kiss (Miami Univ., Ohio), John Priscu (Montana State Univ.), Cristina Takacs-Vesbach (Univ. of New Mexico)
Funding Source: NSF, Antarctic Integrated System Science
Total Award: \$6.7M (\$2.7M managed by Gooseff at CU), Award Period: Jun 2017 – May 2023
2. *NNA Track 1: Collaborative Research: Climate sensitivity of Alaskan rivers, fish and communities as told through storylines*
Principal Investigators (at CU): **Keith Musselman**, Michael Gooseff, Noah Molotch, Cassandra Brooks; Josh Koch (USGS), Nicole Herman-Mercer (USGS), Andrew Newman (NCAR), and Joseph Hamman (NCAR)
Funding Source: NSF, Office of Polar Programs
Total Award: \$3.0M (\$2.2M to CU); Award Period: Jan 2020 – Dec 2024
3. *Resolving Aquifer Controls on Larger River-Groundwater Exchanges of Mass and Energy*
Principal Investigators: **Michael Gooseff**, Xingyuan Chen (PNNL), Marty Briggs (USGS), and Neil Terry (USGS)
Funding Source: Department of Energy, Office of Biological and Environmental Research
Total Award: \$600k (\$350k to Gooseff), Award Period: Sep 2019 – Sep 2022
4. *Collaborative Research: Moving Beyond the Margins: Modeling Water Availability and Habitable Terrestrial Ecosystems in the Polar Desert of the McMurdo Dry Valleys*
Principal Investigators: Mark Salvatore (Univ of Northern AZ), Jeb Barrette (Virginia Tech), Joseph Levy (Colgate), Erik Sokol (NEON), **Michael Gooseff**
Funding Source: NSF, Office of Polar Programs
Total Award: \$1.04M (\$338,836 to Gooseff), Award Period: Mar 2021 – Mar 2024
5. *Quantifying Distributed Exchanges of Groundwater with River Corridors*
Principal Investigators: **Michael Gooseff**, Xingyuan Chen (PNNL)
Funding Source: Department of Energy, Office of Biological and Environmental Research
Total Award: \$199k (\$199k to Gooseff), Award Period: Sep 2017 – Sep 2019
6. *How do interactions of transport and stoichiometry maximize stream nutrient retention?*
Principal Investigators: **Ricardo Gonzalez-Pinzon** (Univ. of New Mexico), Tim Covino (Colorado State Univ.), Michael Gooseff, Kamini Singha (Colorado School of Mines)
Funding Source: NSF, Hydrologic Sciences Program
Total Award: \$1.13M (\$308k to Gooseff); Award Period: Jul 2017 – Jun 2020
7. *Continuous Metabolism and Nutrient Uptake Across the River Continuum*
Principal Investigators: **Matt Cohen** (Univ. of Florida), Michael Gooseff
Funding Source: NSF, Ecosystems Cluster
Total Award: \$877k (\$393k to Gooseff), Award Period: Aug 2016 – Jul 2019
8. *Arctic Oases - How does the delayed release of winter discharge from aufeis affect the ecosystem structure and function of rivers*
Principal Investigators: **Alex Huryn** (Univ. of Alabama), Linda Deegan (MBL), Ken Tape (Univ.

of Alaska Fairbanks), Michael Gooseff

Funding Source: NSF, Arctic Natural Sciences

Total Award: \$300k (\$75k to Gooseff), Award Period: Mar 2016 – Feb 2018

9. *Increased Connectivity in a Polar Desert Resulting from Climate Warming: McMurdo Dry Valley LTER Program* <http://www.mcmlter.org>
Principal Investigators: **Michael Gooseff (took over from McKnight in April 2015)** and 11 others
Funding Source: NSF, Antarctic Integrated System Sciences [Grant #1115245]
Total Award: \$5.88M (\$1.35M managed at CU), Award Period: Apr 2011 – Mar 2017
10. *The McMurdo Dry Valleys – A Landscape on the Threshold of Change*
Principal Investigators: **Andrew Fountain** (Portland State Univ.), Joe Levy (Univ. of Texas), Dave Van Horn (Univ. of New Mexico), Michael Gooseff
Funding Source: NSF, Antarctic Integrated System Sciences
Total Award: \$1.4M (\$110k to Gooseff), Award Period: Sep 2013 – Aug 2016
11. *Effects of climate dynamics on coupled hydrology and biogeochemistry of arctic hillslopes*
Principal Investigators: **Tamara Harms**, Jay Jones (Univ. of Alaska Fairbanks), Sarah Godsey (Idaho State Univ.), Michael Gooseff
Funding Source: NSF, Arctic Natural Sciences [Grant #1107440]
Total Award: \$246,088 to PSU (\$0 to Gooseff), Award Period: Aug 2011 – Aug 2014
12. *EAGER: Are the Dry Valleys Getting Wetter? A Preliminary Assessment of Wetness Across the McMurdo Dry Valleys Landscape*
Principal Investigators: **Michael Gooseff**, Derrick Lampkin (PSU)
Funding Source: NSF, Antarctic Earth Sciences [Grant #1045215]
Total Award: \$171,400 (all managed by Gooseff) Award Period: Oct. 2010 – Sep. 2012
13. *How does changing seasonality affect the capacity of arctic stream networks to influence nutrient fluxes from the landscape to the ocean?*
Principal Investigators: **W. Breck Bowden** (Univ of Vermont), Michael Gooseff, and Wilfred Wollheim (Univ of New Hampshire)
Funding Source: NSF, Arctic System Sciences [Grant #0902029]
Total Award: \$1,263,769 (\$373,268 to Gooseff), Award Period: Sep. 2009 – Aug. 2012
14. *What are the seasonal controls on stream-riparian groundwater exchange during baseflow recession in headwater catchments?*
Principal Investigators: **Michael Gooseff**, and Kamini Singha (PSU)
Funding Source: NSF, Hydrologic Sciences [Grant #0911435]
Total Award: \$455,887 (all managed by Gooseff), Award Period: Jul. 2009 – Jun. 2013
15. *The role of snow patches on distribution of soil microbial communities and biogeochemical cycling in the Antarctic Dry Valleys*
Principal investigators: **Jeb Barrett** (Virginia Tech), Michael Gooseff, and Cristina Vesbach (Univ of New Mexico)
Funding Source: NSF, Antarctic Organisms and Ecosystems [Grant #0838850]
Total Award: \$802,114 (\$275,306 to Gooseff), Award Period: Aug. 2009 – Jul. 2012
16. *Spatial and Temporal Influences of Thermokarst Failures on Surface Processes in the Arctic*
Principal Investigators: **W Breck Bowden** (Univ. of Vermont), plus 12 others
Funding Source: NSF Arctic System Science [Grant #0806341]
Total Award: \$4.53M (\$415,605 to Gooseff), Award Period: Sep. 2008 - Aug. 2012
17. *MOdular Curriculum for Hydrological Advancement (MOCHA) - Toward an Online Faculty Learning Community for Hydrology Education*

Principal Investigators: **Thorsten Wagener**, Priya Sharma, Michael Gooseff, Brian McGlynn and Lucy Marshall (Montana State Univ)

Funding Source: NSF, Course, Curriculum and Laboratory Improvement Program: Phase 1 [Grant #0633556]

Total Award: \$149,205 total (\$0 to Gooseff), Award Period: Jan. 2007 - Dec. 2008

18. *Collaborative Research: Understanding the Scaling of N Cycle Controls Throughout a River Network*

Principal Investigators: **Wil Wollheim** (Univ. New Hampshire), Bruce Peterson and Charles Hopkinson (Marine Biological Laboratory), Michael Gooseff

Funding Source: NSF, Division of Environmental Biology, Ecosystem Science [Grant #0614350]

Total Award: \$867,000 (\$119,724 to Gooseff), Award Period: Sep. 2006 – Aug. 2009

19. *Will climate change affect hyporheic processes in arctic streams? An assessment of interactions among geomorphology, hydrology, and biogeochemistry in Arctic stream networks.*

Principal Investigators: **W. Breck Bowden** (Univ. Vermont), Michael Gooseff, James McNamara (Idaho State Univ.)

Funding Source: NSF, Office of Polar Programs – Arctic Natural Sciences [Grant #0327440]

Total Award: \$608,708 (\$173,304 to Gooseff), Award Period: Aug 2003 – Jul 2006

20. *Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert*

Principal Investigators: **Michael Gooseff**, Jeb Barrett (Dartmouth), and Cristina Takacs-Vesbach (Univ. New Mexico)

Funding Source: NSF, Office of Polar Programs–Antarctic Biology & Medicine [Grant# 0338267]

Total Award: \$421,447 (~\$180k to Gooseff), Award Period: (Jun 2004 – Jun 2007)

21. *Hydrological linkages between landscapes and streams: Transferring reach and plot scale understanding to the network and catchment scales.*

Principal Investigators: **Brian McGlynn** (Montana State Univ.), Michael Gooseff

Funding Source: NSF, Division of Earth Sciences – Hydrological Sciences [Grant #0337781]

Total Award: \$372,060 (~\$165k to Gooseff), Award Period: Apr 2004 – Mar 2007

ADVISING STUDENTS AND POSTDOCS:

Current Graduate Students and Postdocs (titles/themes listed):

D Blaskey (PhD, co-advising with Keith Musselman) – *Arctic river responses to climate change*

M Digiorno (MS) – *Controls on river-groundwater exchanges in the Columbia River, WA*

C Torrens (PhD) – *Aquatic ecosystem response to permafrost degradation in the McMurdo Dry Valleys, Antarctica*

A Wright (PhD) – *Antarctic stream biogeochemical dynamics*

Completed:

2021

J Singley (PhD, co-advised with Eve Hinckley; now a postdoc at Colorado School of Mines) – *Stream corridor connectivity controls on nitrogen cycling*

2020

S Beane (MS; now a field engineer at UNAVCO) – *Hydrologic response to foehn winds in the McMurdo Dry Valleys, Southern Victoria Land, Antarctica.*

A Bergstrom (PhD; now on the faculty of Boise State University) – *The effect of sediment on hydrological and biogeochemical connectivity of glaciers within the McMurdo Dry Valley ecosystem, Antarctica*

E Cantrell (MS) – *Hydrologic Control on Removal of Oxygen in the Bed of a Mountain Stream, East River, Colorado*

2019

A Conner (MS) – *Irrigation Impacts on Hydrologic Exchange Flows and Examination of Governance using a Social-Ecological Framework*

E Jenkins (MS) – *How much does Stream-Groundwater Exchange Influence Whole-Stream Metabolism in a Small Mountain Stream?*

M Spangler (MS; now a Water Quality Engineer for Northern Water) – *Comparison of Diversions and Impoundments on Downstream Water Quality and Ecosystem Processes*

R Heindel (postdoc; now on faculty at Kenyon College) – *Dust deposition influence on ecosystem nutrient cycling in mountainous and polar regions.*

2018

P Hendrickson (MS) – *Ecological Characterization of the Kuparuk Aufeis Field, North Slope Alaska.*

2017

C Wilson (MS, now a consultant in MD) – *Increased stream temperature in response to extreme precipitation events*

A Wlostowski (PhD; now a consulting scientist with Lynker) – *Hydrologic Connectivity in the McMurdo Dry Valleys, Antarctica: Water-Mediated Mass and Energy Fluxes in Streams and Soils*

2016

R Webb (PhD; now a faculty member of Univ of New Mexico) - *Fate of Snowmelt in Complex Subalpine Terrain*

2015

E Smull (MS; now a consultant in CO) – *Physical and biological removal of nitrate along a Colorado montane headwater stream: Understanding the role of bidirectional hydrologic exchange at the reach to catchment scale.*

Z Sudman (MS; now a consultant in Colorado) – *The Impacts of Thermokarst Activity on a Stream in the Dry Valleys, Antarctica*

2014

W Kang (MS; now a PhD student at CSU) – *Reactive Transport Modeling of Nutrients in Arctic Tundra Streams*

2013

Z Langford (MS; now a scientist at Oak Ridge National Lab) – *Are the McMurdo Dry Valleys getting wetter? Analysis using high spatiotemporal remote sensing*

2012

C Bakey (MS; now a pipeline engineer in PA) – *Determining advection in hyporheic zones of tundra streams using heat as a tracer*

E Bernzott (MS; now an engineering consultant in Harrisburg, PA) – *Modeling nitrate concentrations in an Antarctic glacial meltwater stream under fluctuating hydrologic conditions and nitrate inputs*

J Eveland (MS; now an engineering consultant in PA) – *Snow dynamics in a polar desert, the McMurdo Dry Valleys, Antarctica.*

K Gerech (MS; now a consultant in CO) – *Anomalous stream temperature response to storms in a forested headwater stream in central Pennsylvania*

- S Godsey (postdoc; now an assistant professor at Idaho State Univ.) – *Hydrothermal responses of active layer to thermokarst erosion*
- A Wlostowski (MS; now a postdoc at INSTAAR with Molotch) – *Solute transport dynamics in Alaskan Arctic tundra streams*

2011

- S Gregg (MS; now a consultant in eastern PA) – *Comparing transient storage in streams restored with in-stream structures and streams restored with floodplain modification*
- P Kerr (MS; now a consultant in IN) – *The significance of model structure in one-dimensional stream solute transport models with multiple transient storage zones*
- T Voltz (MS; now a research technician in Germany working on bank filtration) – *Riparian water table dynamics in mountain headwater streams.*
- A Ward (PhD; now an Assistant Professor at Indiana Univ.) - *How do controls on hyporheic dynamics affect the potential for restoration of hyporheic exchange?*

2010

- M Weaver (MS, now a consultant in PA) *Hydrologic controls on nutrient fluxes in glacial meltwater streams in inter-annual, seasonal, and daily timescales in the McMurdo Dry Valleys, Antarctica.*
- M Taptich (BS CE, Schreyer's Honors College scholar, senior thesis; now a graduate student at UC Berkeley) *The classification of the hyporheic zone under the Clean Water Act – Post Rapanos Decision.*

2009

- C Kelleher (MS; now on the faculty of Syracuse Univ.) *Understanding and predicting headwater sensitivity to climate change.*

2008

- R Payn (PhD; now on the faculty of Montana State Univ.) *Stream hydrologic characterizations across time and space.*
- M Briggs (MS; now a research scientist at USGS) *Partitioning surface and hyporheic transient storage throughout a coastal stream network.*
- A Bouchier (MS; now at a consulting firm in Oregon) *Response to permafrost failures on hillslopes in the Brooks Range, Alaska.*

2007

- S Ikard (MEng.; now a research scientist at USGS) *Spatial and Temporal Active Layer Thermal Dynamics from Temperature Time Series Analysis: Case Studies from Lake Fryxell, McMurdo Dry Valleys, Antarctica.*
- M Northcott (MS; now at Exxon-Mobil) *Wetted margin hydrology of the Dry Valleys of Antarctica.*
- R Goetz (MS; now at Otis Bay consulting) *A post-project assessment of the Provo River Restoration Project: Channel design, reconfiguration, and the re-establishment of critical physical processes.*

2006

- J Zarnetske (MS; now on the faculty of Michigan State Univ.) *Headwater hyporheic zones in a warming Arctic climate: An assessment of hyporheic dynamics across distinct geomorphic and permafrost conditions.*
- B Shakespeare (MS; now at Bureau of Land Management, OR) *Linking quantified lateral flow gains to catchment attributes in a paired watershed study.*

Past/Current Committee Member for 50 more graduate students at several universities.

PEER-REVIEWED PUBLICATIONS

(over 150 published to date; H-Index = 45 as of Jan 2022, webofknowledge)

* indicates grad student; ** indicates grad advisee/postdoc; underline indicates undergrad advisee

In Review/Revision

Hensley, R, JG Singley, and **MN Gooseff**. Pulses within pulses: Carbon and nitrogen mobilization patterns across temporal scales, from seasonal snowmelt to rain on snow events in a Rocky Mountain catchment. *Hydrological Processes*.

Gooseff, MN, R Ghosh, E Cantrell, ME Matusz, C McIntire, and V Philip. In review. Hydrologic controls on hyporheic removal of oxygen during two distinct flow seasons in the East River, Colorado. *Water Resources Research*.

Singley, JG, K Singha, **MN Gooseff, AS Ward, and ES Hinckley. Identification of hyporheic extent and functional zonation during seasonal streamflow recession by unsupervised clustering of time-lapse electrical resistivity models. *Hydrological Processes* special issue on big data.

Singley, JG, **MN Gooseff, MR Salvatore, DM McKnight, and ES Hinckley, In review. Flux or Famine: Physical and biotic storage of nitrogen along an intermittent Antarctic stream corridor. *Freshwater Science*.

*Emanuelson, K, T Covino, AS Ward, J Dorley, and M Gooseff. In review. Conservative solute transport processes and associated transient storage mechanisms: A comparison of streams with contrasting channel morphologies, land use, and land cover. *Hydrological Processes*.

Torrens, C, **MN Gooseff, DM McKnight. In review. Dissolved organic carbon chemostasis in Antarctic polar desert streams. *Journal of Geophysical Research- Biogeosciences*.

Accepted

Hudson, A, D Peters, J Blair, P Doran, K Geil, **M Gooseff**, K Gross, N Haddad, M Pastore, J Rudgers, O Sala, E Seabloom, and G Shaver. 2022. Cross-site comparisons of climate change on drylands in the US LTER network. *BioScience*, in press.

Published

Huryn, A, **MN Gooseff**, **PJ Hendrickson, MA Briggs, KD Tape, and NC Terry. 2021. Aufeis fields as novel groundwater-dependent ecosystems in the arctic cryosphere. *Limnology & Oceanography*, 66: 607-624, doi: 10.1002/lno.11626.

Salvatore, MR, JE Barrett, RB Schuyler, SN Power, LF Stanish, ER Sokol and **MN Gooseff**. 2021. Counting carbon: Quantifying biomass in the McMurdo Dry Valleys through orbital & field observations. *International Journal of Remote Sensing*, 42:22, 8597-8623, doi: 10.1080/01431161.2021.1981559.

Kohler, TJ, A Howkins, ER Sokol, K Kopalová, A Cox, JP Darling, **MN Gooseff**, and DM McKnight. 2021. From the Heroic Age to today: What diatoms from Shackleton's *Nimrod* expedition can tell us about the ecological trajectory of Antarctic ponds. *Limnology & Oceanography Letters*, 6: 379-387. doi: 10.1002/lol2.10200

Bergstrom, A, **M Gooseff, A Fountain, and M Hoffman. 2021. Long-term shifts in feedbacks among glacier surface change, melt generation, and runoff, McMurdo Dry Valleys, Antarctica. *Hydrological Processes*, 35(8): e14292; doi:10.1002/hyp.14292.

Iwaniec, DM, **M Gooseff**, KN Suding, SD Johnson, DC Reed, DPC Peters, B Adams, JE Barrett, BT Bestelmeyer, MCN Castorani, EM Cook, MJ Davidson, PM Groffman, NP Hanan, LF Huenneke, PTJ Johnson, DM McKnight, RJ Miller, GS Okin, DL Preston, A Rassweiler, C Ray, OE Sala,

- RL Schooley, T Seastedt, MJ Spasojevic, and ER Vivoni. 2021. Connectivity: Insights from the U.S. Long Term Ecological Research Network. *Ecosphere*, 12(5): e03432. 10.1002/ecs2.3432
- Covino, TP, **AN Wlostowski, **MN Gooseff**, WM Wollheim, and WB Bowden. 2021. The seasonality of in-stream nutrient concentrations and uptake in Arctic headwater streams in the northern foothills of Alaska's Brooks Range. *Journal of Geophysical Research: Biogeosciences*, 126, e2020JG005949 doi: 10.1029/2020JG005949.
- **Singley, JG, **MN Gooseff**, DM McKnight, and ES Hinckley. 2021. The role of hyporheic connectivity in determining nitrogen availability: Insights from an intermittent Antarctic stream. *Journal of Geophysical Research: Biogeosciences*, 126, doi: 10.1029/2021JG006309.
- **Heindel, RC, JP Darling, JG Singley, **AJ Bergstrom, DM McKnight, BM Lukkari, KA Welch, and **MN Gooseff**. 2021. Diatoms in hyporheic sediments trace organic matter retention and processing in the McMurdo Dry Valleys, Antarctica, *Journal of Geophysical Research: Biogeosciences*, 126, doi: 10.1029/2020JG006097.
- **Conner, A, **MN Gooseff**, X Chen, E Arntzen, and V Garayburu-Caruso. 2021. Groundwater inflows to the Columbia River along the Hanford Reach and associated nitrate loading. *Frontiers in Water*, doi: 10.3389/frwa.2021.574684.
- Lyons, WB, DL Leslie, and **MN Gooseff**. 2021. Chemical weathering in the McMurdo Dry Valleys, Antarctica in *Hydrogeology, Chemical Weathering, and Soil Formation Geophysical Monograph* 257, eds. A Hunt, M Egli, and B Faybishenko, American Geophysical Union, doi: 10.1002/9781119563952.ch11.
- **Bergstrom, A, **MN Gooseff**, **JG Singley, MJ Cohen, and KA Welch. 2020. Nutrient uptake in the supraglacial stream network of an Antarctic glacier. *Journal of Geophysical Research: Biogeosciences*, 125, e2020JG005679.
- Hensley, RT, **MJ Spangler, *LF DeVito, PH Decker, MJ Cohen, and **MN Gooseff**. 2020. Evaluating spatiotemporal variation in water chemistry of the upper Colorado River using longitudinal profiling. *Hydrological Processes*, 34(8):1782-1793.
- Terry, N, E Grunewald, M Briggs, **M Gooseff**, AD Huryn, MA Kass, KD Tape, **P Hendrickson, and JW Lane Jr. 2020. Seasonal subsurface thaw dynamics of an aueis feature inferred from geophysical methods. *Journal of Geophysical Research – Earth Surface*, 125(3): doi:10.1029/2019JF005345.
- **Bergstrom, A, **MN Gooseff**, *M Myers, PT Doran, and JM Cross. 2020. The seasonal evolution of albedo across glaciers and the surrounding landscape of Taylor Valley, Antarctica. *The Cryosphere*, 14:769-788.
- Hensley RT, *L Kirk, **M Spangler, **MN Gooseff**, and MJ Cohen. 2019. Flow Extremes as Spatiotemporal Control Points on River Solute Fluxes and Metabolism. *Journal of Geophysical Research–Biogeosciences* 124(3): 537-555.
- Harms TK, CL Cook, **AN Wlostowski, **MN Gooseff**, and SE Godsey. 2019. Spiraling down hillslopes: Nutrient uptake from water tracks in a warming Arctic. *Ecosystems*, 22(7): 1546-1560.
- Post, E, RB Alley, TR Christensen, M Macias-Fauria, BC Forbes, **MN Gooseff**, A Iler, JT Kerby, KL Laidre, ME Mann, J Olofsson, JC Stroeve, F Ulmer, RA Virginia, and M Wang. 2019. The polar regions in a 2 degrees C warmer world. *Science Advances*, 5(12): ARTN eaaw9883.
- **Wlostowski AN, NO Schulte, BJ Adams, BA Ball, RMM Esposito, **MN Gooseff**, WB Lyons, UN Nielsen, RA Virginia, DH Wall, DM McKnight. 2019. The Hydroecology of an ephemeral wetland in the McMurdo Dry Valleys, Antarctica. *Journal of Geophysical Research–Biogeosciences*, 124 (12): 3814-3830.

- **Wlostowski, AN, **MN Gooseff**, DM McKnight, and WB Lyons. 2018. Transit times and rapid chemical equilibrium explain chemostasis in glacial meltwater streams in the McMurdo Dry Valleys, Antarctica. *Geophysical Research Letters*, 45 (24): 13,322 DOI: 10.1029/2018GL080369
- Levy, JS, AG Fountain, MK Obryk, J Telling, C Glennie, R Pettersson, **M Gooseff**, and DJ Van Horn. 2018. Decadal topographic change in the McMurdo Dry Valleys of Antarctica: Thermokarst subsidence, glacier thinning, and transfer of water storage from the cryosphere to the hydrosphere. *Geomorphology*, 323: 80-97.
- **Wlostowski, AN, **MN Gooseff**, and BJ Adams. 2018. Soil moisture controls the thermal habitat of active layer soils in the McMurdo Dry Valleys, Antarctica. *Journal of Geophysical Research Biogeosciences*, 123(1): 46-59.
- **Webb, RW, SR Faccnacht, and **MN Gooseff**. 2018. Hydrologic flow path development varies by aspect during spring snowmelt in complex subalpine terrain. *The Cryosphere*, 12: 287-300.
- Pai, H, HF Malenda, MA Briggs, K Singha, R Gonzalez-Pinzon, **MN Gooseff**, SW Tyler, and AirCTEMPS Team. 2017. Potential for small unmanned aircraft systems for identifying groundwater-surface water exchange in a meandering river reach, *Geophysical Research Letters*, 44(23): 11,868-11,877.
- Gooseff, MN**, JE Barrett, BA Adams, PT Doran, AG Fountain, WB Lyons, DM McKnight, JC Priscu, ER Sokol, C Takacs-Vesbach, ML Vandegehuchte, RA Virginia, and DH Wall. 2017. Decadal ecosystem response to an anomalous melt season in a polar desert in Antarctica. *Nature Ecology & Evolution*, doi:10.1038/s41559-017-0253-0.
- Geyer KM, CD Takacs-Vesbach, **MN Gooseff**, and JE Barrett. 2017. Primary productivity as a control over soil microbial diversity along environmental gradients in a polar desert ecosystem. *PeerJ*, 5:e3377
- **Singley, JG, **AN Wlostowski, **AJ Bergstrom, **ER Sokol, **CL Torrens, C Jaros, **CE Wilson, **PJ Hendrickson, and **MN Gooseff**. 2017. Characterizing hyporheic exchange processes using high-frequency electrical conductivity-discharge relationships on subhourly to interannual timescales. *Water Resources Research*, 53(3): 4124-4141.
- Ward AS, NM Schmadel, SM Wondzell, **MN Gooseff**, and K Singha. 2017. Dynamic hyporheic and riparian flow path geometry through base flow recession in two headwater mountain stream corridors. *Water Resources Research*, 53(3): 3988-4003.
- **Webb, RW, SR Fassnacht, and **MN Gooseff**. 2017. Defining the diurnal pattern of snowmelt using a beta distribution function. *Journal of the American Water Resources Association*, 53(3): 684-696.
- **Sudman, Z, **MN Gooseff**, AG Fountain, JS Levy, MK Obryk, and D Van Horn. 2017. Impacts of permafrost degradation on a stream in Taylor Valley, Antarctica. *Geomorphology*, 285: 205-213.
- **Wlostowski, A, **MN Gooseff**, WB Bowden, and W Wollheim. 2017. Stream tracer breakthrough curve decomposition into mass fractions: A simple framework to analyze and compare conservative solute transport processes. *Limnology & Oceanography: Methods*, 15(2): 140-153.
- Gooseff, MN**, **A Wlostowski, DM McKnight, and C Jaros. 2017. Hydrologic connectivity and implications for ecosystem processes - Lessons from naked watersheds. *Geomorphology*, 277: 63-71.
- Fountain, AG, G Saba, B Adams, P Doran, W Fraser, **M Gooseff**, M Obryk, JC Priscu, S Stammerjohn, and R Virginia. 2016. The impact of a large-scale climate event on Antarctic Ecosystem Processes. *Bioscience*, 66(10): 848-863.

- Obryk, MK, PT Doran, AS Friedlaender, **MN Gooseff**, W Li, RM Morgan-Kiss, JC Priscu, O Schofield, SE Stammerjohn, DK Steinberg, and HW Ducklow. 2016. Responses of Antarctic marine and freshwater ecosystems to changing ice conditions. *Bioscience*, 66(10): 864-879.
- Castendyk, DN, MK Obryk, SZ Leidman, **MN Gooseff**, and I Hawes. 2016. Lake Vanda: A sentinel for climate change in the McMurdo Sound Region of Antarctica. *Global and Planetary Change*, 144: 213-227.
- **Wlostowski, AN, **MN Gooseff**, DM McKnight, C Jaros, and WB Lyons. 2016. Patterns of hydrological connectivity in the McMurdo Dry Valleys, Antarctica: A synthesis of 20 years of hydrologic data. *Hydrological Processes*, 30(17): 2958-2975.
- Herbei R, AL Rytel, WB Lyons, DM McKnight, C Jaros, **MN Gooseff**, and JC Priscu. 2016. Hydrological controls on ecosystem dynamics in Lake Fryxell, Antarctica. *PLoS ONE*, 11(7): e0159038. doi:10.1371/journal.pone.0159038
- *Buelow, HN, AS Winter, DJ Van Horn, JE Barrett, **MN Gooseff**, E Schwartz, and CD Takacs-Vesbach. 2016. Microbial community responses to increased water and organic matter in the arid soils of the McMurdo Dry Valleys, Antarctica. *Frontiers in Microbiology*, 7:1040. doi:10.3389/fmicb.2016.01040.
- Wohl, E, BP Bledsoe, KD Fausch, N Kramer, KR Bestgen and **MN Gooseff**. 2016. Management of large wood in Streams: An overview and proposed framework for hazard evaluation. *Journal of the American Water Resources Association*, 52(2): 315–335.
- Gooseff, MN**, D Van Horn, Z Sudman, DM McKnight, KA Welch, and WB Lyons. 2016. Stream biogeochemical and suspended sediment responses to permafrost degradation in stream banks in Taylor Valley, Antarctica. *Biogeosciences*, 13, 1723-1732, doi:10.5194/bg-13-1723-2016.
- Ward, AS, N Schmaedel, SM Wondzell, C Harman, **MN Gooseff**, and K Singha. 2016. Hydrogeomorphic controls on hyporheic and riparian transport in two headwater mountain streams during base flow recession. *Water Resources Research*, 52(2): 1479-1497.
- Harvey, J, and **M Gooseff**, 2015. River corridor science: Hydrologic exchange and ecological consequences from bedforms to basins. *Water Resources Research*, 51(9): 6893-6922.
- McKnight, DM, K Cozzetto, JDS Cullis, **MN Gooseff**, C Jaros, JC Koch, WB Lyons, R Neupauer, and A Wlostowski. 2015. Potential for real-time understanding of coupled hydrologic and biogeochemical processes in stream ecosystems: Future integration of telemetered data with process models for glacial meltwater systems. *Water Resources Research*, 51(8): 7625-6738.
- **Webb, R, S Fassnacht, and **MN Gooseff** 2015. Wetting and drying variability of the shallow subsurface beneath a snowpack in California's southern Sierra Nevada. *Vadose Zone Journal*, 14(8): doi:10.2136/vzj2014.12.0182.
- Kohler, TJ, E Chatfield, **MN Gooseff**, JE Barrett, and DM McKnight. 2015. Recovery of Antarctic stream epilithon from simulated scouring events. *Antarctic Science*, 27(4): 341-354.
- *Okie, JG, DJ Van Horn, D Storch, JE Barrett, **MN Gooseff**, L Kopsova, CD Takacs-Vesbach. 2015. Niche and metabolic principles explain patterns of diversity and distribution: theory and a case study with soil bacterial communities. *Proceedings of the Royal Society - B*, 282: 20142630.
- **Langford, ZL, **MN Gooseff**, and DJ Lampkin. 2015. Spatiotemporal dynamics of wetted soils across a polar desert landscape. *Antarctic Science*, 27(2): 197-209.
- González-Pinzón, R, AS Ward, CE Hatch, **AN Wlostowski, K Singha, **MN Gooseff**, R Haggerty, JW Harvey, OA Cirpka, and JT Brock. 2015. A field comparison of multiple techniques to quantify groundwater–surface-water interactions. *Freshwater Science*, 34(1): 139-160.

- Fountain, AG, JS Levy, **MN Gooseff**, and D Van Horn. 2014. The McMurdo Dry Valleys: A landscape on the threshold of change. *Geomorphology*, 225: 25-35.
- Wollheim, WM, TK Harms, BJ Peterson, K Morkeski, CS Copkinson, RJ Stewart, **MN Gooseff**, and MA Briggs. 2014. Nitrate uptake dynamics of surface transient storage in stream channels and fluvial wetland. *Biogeochemistry*, 120: 239-257.
- *Geyer, KM, *AE Altrichter, CD Takacs-Vesbach, DJ Van Horn, **MN Gooseff**, and JE Barrett. 2014. Bacterial community composition of divergent soil habitats in a polar desert. *FEMS Ecology*, 89(2):490-494.
- Schwartz, E, DJ Van Horn, HN Buelow, JG Okie, **MN Gooseff**, JE Barrett, and CD Takacs-Vesbach. 2014. Characterization of growing bacterial populations in McMurdo Dry Valley soils through stable isotope probing with ¹⁸O-water. *FEMS Ecology*, 89(2): 415-425.
- **Ward, AS, **MN Gooseff**, M Fitzgerald, TJ Voltz, and K Singha. 2014. Spatially distributed characterization of hyporheic solute transport during baseflow recession in a headwater mountain stream using electrical geophysical imaging. *Journal of Hydrology*, 517: 362-377.
- Van Horn, DJ, *JG Okie, *HN Buelow, **MN Gooseff**, JE Barrett, and CD Takacs-Vesbach. 2014. Soil microbial responses to increased moisture and organic resources along a salinity gradient in a polar desert. *Applied and Environmental Microbiology*, 80(10), 3034-3043.
- Levy, JS, AG Fountain, **MN Gooseff**, JE Barrett, R Vantrees, KA Welch, WB Lyons, UN Nielsen, and DH Wall. 2014. Water track modification of soil ecosystems in the Lake Hoare basin, Taylor Valley, Antarctica. *Antarctic Science*, 26(2), 153-162.
- *Geyer, KM, *AE Altrichter, DJ Van Horn, CD Takacs-Vesbach, **MN Gooseff**, and JE Barrett. 2013. Environmental controls over bacterial communities in polar desert soils. *Ecosphere*, 4:art127. <http://dx.doi.org/10.1890/ES13-00048.1>.
- *Kelleher, C, T Wagener, B McGlynn, **AS Ward, **MN Gooseff** and **R Payn. 2013. Identifiability of transient storage model parameters along a mountain stream. *Water Resources Research*, 49(9): 5290-5306.
- **Ward, AS, **MN Gooseff**, TJ Voltz, M Fitzgerald, K Singha, and **JP Zarnetske. 2013. How does rapidly changing discharge during storm events affect transient storage and channel water balance in a headwater mountain stream? *Water Resources Research*, 49(9): 5473-5486.
- *Cozzetto, KD, KE Bencala, **MN Gooseff**, and DM McKnight. 2013. The influence of stream thermal regimes and preferential flow paths on hyporheic exchange in a glacial meltwater stream. *Water Resources Research*, 49(9): 5552-5569.
- *Larson, LN, M Fitzgerald, K Singha, **MN Gooseff**, JL Macalady, and W Burgos. 2013. Hydrogeochemical niches associated with hyporheic exchange beneath an acid mine drainage-contaminated stream. *Journal of Hydrology*, 501: 163-174.
- **Eveland, JW, **MN Gooseff**, DJ Lampkin, JE Barrett, and CD Takacs-Vesbach. 2013. Spatial and temporal patterns of snow accumulation and aerial ablation across the McMurdo Dry Valleys, Antarctica. *Hydrological Processes*, 22:2864-2875.
- **Ward, AS, **RA Payn, **MN Gooseff**, BL McGlynn, KE Bencala, CA Kelleher, SM Wondzell, and T Wagener. 2013. Variations in surface water-ground water interactions along a headwater mountain stream: Comparisons between transient storage and water balance analyses. *Water Resources Research*, 49(6): 3359-3374.

- Wondzell, SM, and **MN Gooseff** 2013. Geomorphic controls on hyporheic exchange across scales: Watersheds to particles. In: Shroder, J. (Editor in Chief), Wohl, E. (Ed.), Treatise on Geomorphology. Academic Press, San Diego, CA, vol. 9, Fluvial Geomorphology: 203–218.
- **Voltz, TJ, MN Gooseff, **AS Ward, K Singha, M Fitzgerald, and T Wagener.** 2013. Riparian hydraulic gradient and stream-groundwater exchange dynamics in steep headwater valleys, *Journal of Geophysical Research*, 118, 953-969, doi:10.1002/jgrf.20074
- **Kerr, PC, MN Gooseff, and D Bolster.** 2013. The significance of model structure in one-dimensional stream solute transport models with multiple transient storage zones – competing vs. nested arrangements. *Journal of Hydrology*, 497: 133-144.
- **Eveland, JW, MN Gooseff, DJ Lampkin, JE Barrett, and CD Takacs-Vesbach.** 2013. Seasonal controls on snow distribution and aerial ablation at the snow-patch and landscape scales, McMurdo Dry Valleys, Antarctica. *The Cryosphere*, 7:917-931.
- Van Horn, DJ, ML Van Horn, JE Barrett, **MN Gooseff**, *AE Altrichter, *KM Geyer, LH Zeglin, CD Takacs-Vesbach. 2013. Factors controlling soil microbial biomass and bacterial diversity and community composition in a cold desert ecosystem: Role of geographic scale. *PLoS-ONE*, 8(6): e66103.
- **Wlostowski, AN, MN Gooseff, and T Wagener.** 2013. Influence of constant rate versus slug injection experiment type on parameter identifiability in a 1-D transient storage model for stream solute transport. *Water Resources Research*, 49(2): 1184-1188.
- Gooseff, MN, **MA Briggs, KE Bencala, BL McGlynn, and DT Scott.** 2013. Do transient storage parameters directly scale in longer, combined stream reaches? Reach length dependence of transient storage interpretations, *Journal of Hydrology*, 483: 16-25.
- Gooseff, MN, JE Barrett, and JS Levy.** 2013. Shallow Groundwater Systems in a Polar Desert, McMurdo Dry Valleys, Antarctica. *Hydrogeology Journal*, Special Issue on High Latitude Groundwater Systems, 21(1):171-183.
- **Ward, AS, MN Gooseff, and K Singha.** 2013. How does subsurface characterization affect simulations of hyporheic exchange? *Ground Water*, 51(1): 14-28.
- Wagener, T, C Kelleher, M Weiler, B McGlynn, **M Gooseff**, L Marshall, T Meixner, K McGuire, S Gregg, P Sharma, and S Zappe. 2012. It takes a community to raise a hydrologist: The Modular Curriculum for Hydrologic Advancement (MOCHA), *Hydrology and Earth System Sciences*, 16: 3405-3418
- **Payn, RA, MN Gooseff, BL McGlynn, KE Bencala, and SM Wondzell.** 2012. Exploring changes in the spatial distribution of stream baseflow generation during a seasonal recession. *Water Resources Research*, 48, W04519, doi:10.1029/2011WR011552
- **Ward, AS, M Fitzgerald, MN Gooseff, TJ Voltz, AM Binley, and K Singha.** 2012. Hydrologic and geomorphic controls on hyporheic exchange during base flow recession in a headwater mountain stream. *Water Resources Research*, 48, W04513, doi:10.1029/2011WR011461
- **Kelleher, C, T Wagener, M Gooseff, B McGlynn, K McGuire, and L Marshall.** 2012. Investigating controls on the thermal sensitivity of Pennsylvania streams. *Hydrological Processes*, 26: 771-785.
- Nielsen, UN, DH Wall, BJ Adams, RA Virginia, BA Ball, **MN Gooseff**, and DM McKnight. 2012. The ecology of pulse events: insights from an extreme climatic event in a polar desert ecosystem. *Ecosphere*, 3(2):art17, doi:http://dx.doi.org/10.1890/ES11-00325.1

- Ball, BA, JE Barrett, **MN Gooseff**, RA Virginia, and DH Wall. 2011. Implications of meltwater pulse events for soil biology and biogeochemical cycling in a polar desert. *Polar Research*, 30, 14555, doi: 10.3402/polar.v30i0.14555
- *Westhoff, MC, **MN Gooseff**, TA Bogaard, and HHG Savenije. 2011. Quantifying hyporheic exchange at high spatial resolution using natural temperature variations along a first-order stream. *Water Resources Research*, 47, W10508, doi:10.1029/2010WR009767.
- Levy, JS, AG Fountain, **MN Gooseff**, KA Welch and WB Lyons. 2011. Water tracks and permafrost in Taylor Valley, Antarctica: Extensive and shallow groundwater connectivity in a cold desert ecosystem. *Geological Society of America Bulletin*, 123(11-12):2295-2311.
- Gooseff, MN**, DM McKnight, P Doran, AG Fountain, and WB Lyons. 2011. Hydrological connectivity of the landscape of the McMurdo Dry Valleys, Antarctica. *Geography Compass*, 5(9):666-681
- *Stewart, RJ, WM Wollheim, **MN Gooseff**, MA Briggs, JM Jacobs, BJ Peterson, and CS Hopkinson. Separation of river network scale nitrogen removal among main channel and two transient storage compartments. *Water Resources Research*, 47, W00J10, doi:10.1029/2010WR009896.
- Hester, E, and **MN Gooseff**. Hyporheic restoration in streams and rivers, in Stream Restoration in Dynamic Systems: Scientific Approaches, Analyses, and Tools, edited by A Simon and S Bennett. AGU monograph, 167-187.
- **Ward, AS, **MN Gooseff**, and PA Johnson. 2011. How can subsurface modifications to hydraulic conductivity be designed as stream restoration structures? Analysis of Vaux's conceptual models to enhance hyporheic exchange, *Water Resources Research*, 47, W08512, doi:10.1029/2010WR010028.
- Bencala, KE, **MN Gooseff**, and BA Kimball. 2011. Rethinking hyporheic flow and transient storage to advance understanding of stream-catchment connections. *Water Resources Research*, 47, W00H03, doi:10.1029/2010WR010066.
- Gooseff, MN**, DA Benson, **MA Briggs, M Weaver, W Wollheim, B Peterson, and CS Hopkinson. 2011. Residence time distributions in surface transient storage zones in streams: Estimation via signal deconvolution. *Water Resources Research*, 47, W05509, doi:10.1029/2010WR009959.
- *Zeglin, LH, CN Dahm, JE Barrett, **MN Gooseff**, SK Fitzpatrick, and CD Takacs-Vesbach. 2011. Bacterial community structure along moisture gradients in the parafluvial sediments of two ephemeral desert streams. *Microbial Ecology*, 61(3): 543-556.
- *Jencso, KG, BL McGlynn, **MN Gooseff**, KE Bencala, and SM Wondzell. 2010. Hillslope hydrologic connectivity controls riparian groundwater turnover: Implications of catchment structure for riparian buffering and stream water sources. *Water Resources Research*, 46, W10524, doi:10.1029/2009WR008818.
- **Ward, AS, **MN Gooseff**, and K Singha. 2010. Characterizing hyporheic transport processes - Interpretation of electrical geophysical data in coupled stream-hyporheic zone systems during solute tracer studies. *Advances in Water Resources*, 33(11): 1320-1330.
- Welch, K, WB Lyons, C Whisner, C Gardner, **M Gooseff**, D McKnight, and JC Priscu. 2010. Spatial variations in the geochemistry of glacial melt-water streams in the Taylor Valley, Antarctica. *Antarctic Science*, 22: 662-672.
- Gooseff, MN**. 2010. Defining hyporheic zones – Advancing our conceptual and operational definitions of where stream water and groundwater meet. *Geography Compass*, 4(8): 945-955.

- **Briggs, MA, **MN Gooseff**, BJ Peterson, K Morkeski, WM Wollheim, and CS Hopkinson. 2010. Surface and hyporheic transient storage dynamics throughout a coastal stream network. *Water Resources Research*, 46, W06516, doi:10.1029/2009WR008222.
- **Ward, A, **M Gooseff**, and K. Singha. 2010. Imaging hyporheic zone solute transport using electrical resistivity. *Hydrological Processes*, 24(7): 948-953.
- Hester, ET, and **MN Gooseff**. 2010. Moving beyond the banks: Hyporheic restoration is fundamental to restoring ecological services and functions of streams. *Environmental Science & Technology*, 44(5): 1521-1525.
- Wondzell, SM, **MN Gooseff**, and BL McGlynn. 2010. An analysis of alternative conceptual models relating hyporheic exchange flow to diel fluctuations in discharge during baseflow recession. *Hydrological Processes*, 24(6): 686-694.
- Gooseff, MN**, DM McKnight, M Carr, and J Baeseman. 2010. Antarctic McMurdo Dry Valley stream ecosystems as analogue to fluvial systems on Mars in Life in Antarctic Deserts and other Cold Dry Environments: Astrobiological Analogues, eds. P Doran, WB Lyons, and DM McKnight, Cambridge, UK, 139-160.
- Barrett, JE, MA Poage, **MN Gooseff**, and C Takacs-Vesbach. 2010. The legacy of aqueous environments on soils of the McMurdo Dry Valleys: Contexts for future exploration of Martian soils in Life in Antarctic Deserts and other Cold Dry Environments: Astrobiological Analogues, eds. P Doran, WB Lyons, and DM McKnight, Cambridge, UK, 78-109.
- Takacs-Vesbach, C, LH Zeglin, JC Priscu, JE Barrett, and **MN Gooseff**. 2010. Factors promoting microbial diversity in the McMurdo Dry Valleys, Antarctica in Life in Antarctic Deserts and other Cold Dry Environments: Astrobiological Analogues, eds. P Doran, WB Lyons, and DM McKnight, Cambridge, UK, 221-257.
- Barrett, JE, **MN Gooseff**, C Takacs-Vesbach. 2009. Spatial variation in soil active-layer geochemistry across hydrologic margins in polar desert ecosystems. *Hydrology and Earth System Sciences*, 13: 2349-2358.
- **Payn, RA, **MN Gooseff**, BL McGlynn, KE Bencala, and SM Wondzell. 2009. Channel water balance and exchange with subsurface flow along a mountain headwater stream in Montana, USA. *Water Resources Research*, 45, W11427, doi:10.1029/2008WR007644.
- *Brosten, T, JH Bradford, JP McNamara, **MN Gooseff**, JP Zarnetske, WB Bowden, and ME Johnston. 2009. Multi-offset GPR methods for hyporheic zone investigations. *Near Surface Geophysics*, 7(4): 247-257.
- *Brosten, TR, JH Bradford, JP McNamara, **MN Gooseff**, JP Zarnetske, WB Bowden, and ME Johnston. 2009. Estimating 3D variation in active-layer thickness beneath arctic streams using ground-penetrating radar. *Journal of Hydrology*, 373(3-4): 479-486, doi:10.1016/j.jhydrol.2009.05.011.
- *Zeglin, LH, R Sinsabaugh, J Barrett, **M Gooseff**, and C Takacs-Vesbach. 2009. Landscape distribution of microbial activity in the McMurdo Dry Valleys: Linked biotic processes, hydrology and geochemistry in a cold desert ecosystem. *Ecosystems*, 12(4): 562-573.
- *Jensco, KG, BL McGlynn, **MN Gooseff**, SM Wondzell, KE Bencala, and LA Marshall. Hydrologic connectivity between landscapes and streams: Transferring reach and plot scale understanding to the catchment scale. *Water Resources Research*, 45, W04428, doi:10.1029/2008WR007225.
- **Northcott, ML, **MN Gooseff**, JE Barrett, L Zeglin, CD Takacs-Vesbach, and J Humphrey. 2009. Hydrologic characteristics of lake- and stream-side riparian wetted margins in the McMurdo Dry Valleys, Antarctica. *Hydrological Processes*, 23(9): 1255-1267.

- **Briggs, MA, **MN Gooseff**, CD Arp, and MA Baker. 2009. A method for estimating surface transient storage parameters for streams with concurrent hyporheic storage. *Water Resources Research*, 45, W00D27, doi:10.1029/2008WR006959.
- **Ikard, S, **MN Gooseff**, JE Barrett, and C Vesbach. 2009. Thermal characterisation of active layer across a soil moisture gradient in the McMurdo Dry Valleys, Antarctica. *Permafrost and Periglacial Processes*, 19, doi:10.1002/ppp.634.
- Singha, K, A Pidlisecky, FD Day-Lewis, and **MN Gooseff**. 2008. Electrical characterization of non-fickian transport in groundwater and hyporheic systems. *Water Resources Research*, 44, W00D07, doi:10.1029/2008WR007048.
- McKnight, DM, **MN Gooseff**, WF Vincent, and BJ Peterson. 2008. High Latitude Rivers and Streams in Polar Lakes and Rivers Limnology of Arctic and Antarctic Aquatic Ecosystems, eds. WF Vincent and J Laybourn-Parry, Oxford University Press, 83-102.
- Gooseff, MN**, SM Wondzell, and KE Bencala. 2008. Solute Transport Along Stream and River Networks in River Confluences, Tributaries and the Fluvial Network, eds. S Rice, A Roy, and B Rhodes, John Wiley & Sons, 395-418.
- Gooseff, MN**, **RA Payn, **JP Zarnetske, WB Bowden, JP McNamara, and JH Bradford. 2008. Comparison of in-channel mobile-immobile zone exchange during instantaneous and constant-rate stream tracer additions: Implications for design and interpretation of non-conservative tracer experiments. *Journal of Hydrology*, 357: 112-124, doi:10.1016/j.jhydrol.2008.05.006.
- Gooseff, MN**, JE Barrett, **S Ikard, **ML Northcott, C Vesbach, and *L Zeglin. 2008. Thermal dynamics of active layer along a hydrologic gradient bordering lakes in the McMurdo Dry Valleys, Antarctica, eds. DL Kane, and KM Hinkel, Ninth International Conference on Permafrost, Institute of Northern Engineering, 529-534.
- Bowden, WB, MJ Greenwald, **MN Gooseff**, **JP Zarnetske, JP McNamara, J Bradford, and *T Brosten. 2008. Carbon, nitrogen, and phosphorus interactions in the hyporheic zones of arctic streams draining areas of continuous permafrost, eds. DL Kane, and KM Hinkel, Ninth International Conference on Permafrost, Institute of Northern Engineering, 165-170.
- *Greenwald, MJ, WB Bowden, **MN Gooseff**, **JP Zarnetske, JP McNamara, JH Bradford, and *T Brosten. 2008. Hyporheic exchange and water chemistry of two arctic tundra streams of contrasting geomorphology. *Journal of Geophysical Research-Biogeosciences*, 113, G02029, doi:10.1029/2007JG000549.
- **Payn, RA, **MN Gooseff**, DA Benson, OA Cirpka, **JP Zarnetske, WB Bowden, JP McNamara, and JH Bradford. 2008. Comparison of instantaneous and constant-rate stream tracer experiments through non-parametric analysis of residence time distributions. *Water Resources Research*, 44, W06404, doi:10.1029/2007WR006274.
- Cardenas, MB, and **MN Gooseff**. 2008. Comparison of hyporheic exchange under covered and uncovered channels based on linked surface and groundwater flow simulations, *Water Resources Research*, 44, W03418, doi:10.1029/2007WR006506.
- Bowden, WB, **MN Gooseff**, J Bradford, A Balsler, A Green, and B Peterson. 2008. Sediment and nutrient delivery from thermokarst features in the foothills of the North Slope, Alaska: Potential impacts on headwater stream ecosystems. *Journal of Geophysical Research-Biogeosciences*, 113, G02026, doi:10.1029/2007JG000470.
- **Zarnetske, JP, **MN Gooseff**, WB Bowden, *MJ Greenwald, *TR Brosten, JH Bradford, and JP McNamara. 2008. Influence of morphology and permafrost dynamics on hyporheic exchange in

- Arctic headwater streams under warming climate conditions. *Geophysical Research Letters*, 35, L02501, doi:10.1029/2007GL032049.
- Bradford, JH, CR Johnson, *T Brosten, JP McNamara, and **MN Gooseff**. 2007. Imaging thermal stratigraphy in freshwater lakes using georadar. *Geophysical Research Letters*, 34, L24405, doi:10.1029/2007GL032488.
- Wondzell, SM, **MN Gooseff**, and BL McGlynn. 2007. Flow velocity and the hydrologic behavior of streams during baseflow. *Geophysical Research Letters*, 34, L24404, doi:10.1029/2007GL031256.
- Gooseff, MN**, JE Barrett, **ML Northcott, DB Bate, KR Hill, *LH Zeglin, *M Bobb, and CD Takacs-Vesbach. 2007. Controls on the spatial dimensions of wetted hydrologic margins around two Antarctic lakes. *Vadose Zone Journal*, 6: 841-848.
- Gooseff, M**, DM McKnight, PT Doran, and WB Lyons. 2007. Trends in discharge and flow season timing of the Onyx River, Wright Valley, Antarctica since 1969. In: Cooper, Alan, Raymond, Carol, and the ISAES Editorial Team, Antarctica: A keystone in a changing world-- proceedings for the tenth international symposium on Antarctic earth sciences: U.S. Geological Survey Open-File Report 2007-1047.
- **Zarnetske, JP, **MN Gooseff**, *TR Brosten, JH Bradford, JP McNamara, and WB Bowden. 2007. Transient storage as a function of geomorphology, discharge, and permafrost active layer conditions in Arctic tundra streams. *Water Resources Research*, 43, W07410, doi:10.1029/2005WR004816.
- Wagener, T, M Weiler, B McGlynn, **M Gooseff**, T Meixner, L Marshall, K McGuire, and M McHale. 2007. Taking the pulse of hydrology education. *Hydrological Processes*, 21(13):1789-1792.
- Gooseff, MN**, RO Hall Jr., and JL Tank. 2007. Relating transient storage to channel complexity in streams of varying land use in Jackson Hole, Wyoming. *Water Resources Research*, 43, W01417, doi:10.1029/2005WR004626.
- *Arp, CD, **MN Gooseff**, MA Baker, and W Wurtsbaugh. 2006. Surface-water hydrodynamics and regimes of a small mountain stream-lake ecosystem. *Journal of Hydrology*, 329(1-4): 500-513.
- *Brosten, T, JH Bradford, JP McNamara, JP Zarnetske, **MN Gooseff**, WB Bowden. 2006. Profiles of temporal thaw depths beneath two arctic stream types using ground-penetrating radar. *Permafrost and Periglacial Processes*, 17(4):341-355.
- Gooseff, MN**, *JK Anderson, SM Wondzell, J LaNier, and R Haggerty. 2006. A modeling study of hyporheic exchange pattern and the sequence, size, and spacing of stream bedforms in mountain stream networks, Oregon, USA. *Hydrological Processes*, 20(11): 2443-2457.
- Gooseff, MN**, WB Lyons, DM McKnight, BH Vaughn, AG Fountain, and C Dowling. 2006. A stable isotopic investigation of a polar desert hydrologic system, McMurdo Dry Valleys, Antarctica. *Arctic, Antarctic, and Alpine Research*, 38(1): 60-71.
- Hood, E, **MN Gooseff**, and SL Johnson. 2006. Changes in the character of stream water dissolved organic carbon during flushing in three small watersheds, Oregon. *Journal of Geophysical Research*, 111, G01007, doi:10.1029/2005JG000082.
- *Anderson, JK, SM Wondzell, **MN Gooseff**, and R Haggerty. Patterns in stream longitudinal profiles and implications for hyporheic exchange flow. *Hydrological Processes*, 19(15): 2931-2949.
- Bradford, JH, JP McNamara, WB Bowden, **MN Gooseff**. 2005. Imaging depth-of-thaw beneath arctic streams using ground-penetrating radar. *Hydrological Processes*, 19(14): 2689-2699.

- Gooseff, MN**, and BL McGlynn. 2005. A stream tracer technique employing ionic tracers and specific conductance data applied to the Maimai catchment, New Zealand. *Hydrological Processes*, 19(13): 2491-2506.
- Gooseff, MN**, J LaNier, R Haggerty, and K Kokkeler. 2005. Determining in-channel (dead zone) transient storage by comparing solute transport in a bedrock channel-alluvial channel sequence, Oregon. *Water Resources Research*, 41, W06014, doi:10.1029/2004WR003513.
- Gooseff, MN**, KE Bencala, DT Scott, RL Runkel, and DM McKnight. 2005. Sensitivity analysis of conservative and reactive stream transient storage models applied to field data from multiple-reach experiments. *Advances in Water Resources*, 28(5): 479-492.
- Gooseff, MN**, K Strzepek, and SC Chapra. 2005. Potential effect of climate change on water temperature downstream of a reservoir: Lower Madison River, Montana. *Climatic Change*, 68(3): 331-353.
- Gooseff, MN**, DM McKnight, RL Runkel, and JH Duff. 2004. Denitrification and hydrologic transient storage in a glacial meltwater stream, McMurdo Dry Valleys, Antarctica. *Limnology and Oceanography*, 49(5): 1884-1895.
- Gooseff, MN**, DM McKnight, and RL Runkel. 2004. Reach-scale cation exchange controls on major ion chemistry of an Antarctic glacial meltwater stream. *Aquatic Geochemistry*, 10(3): 221-238.
- Gooseff, MN**, JE Barrett, P Doran, AG Fountain, WB Lyons, AN Parsons, DL Porazinska, RA Virginia, and DH Wall. 2003. Snow patch influence on soil biogeochemical processes and invertebrate distribution in the McMurdo Dry Valleys, Antarctica. *Arctic, Antarctic, and Alpine Research*, 35: 92-100.
- Gooseff, MN**, DM McKnight, RL Runkel and BH Vaughn. 2003. Determining long time-scale hydrologic flow paths in Antarctic streams. *Hydrological Processes*, 17(9): 1691-1710.
- Gooseff, MN**, SM Wondzell, R Haggerty, and J Anderson. 2003. Comparing transient storage modeling and residence time distribution (RTD) analysis in geomorphically varied reaches in the Lookout Creek basin, Oregon, USA. *Advances in Water Resources*, 26(9): 925-937.
- Scott, DT, **MN Gooseff**, KE Bencala, and RL Runkel. 2003. Automated calibration of a stream solute transport model: implications for interpretation of biogeochemical parameters. *Journal of the North American Benthological Society*, 22(4): 492-510.
- Gooseff, MN**, DM McKnight, WB Lyons, and AE Blum. 2002. Weathering reactions and hyporheic exchange controls on stream water chemistry in a glacial meltwater stream in the McMurdo Dry Valleys. *Water Resources Research*, 38(12): 1279, DOI 10.1029/2001WR000834.
- Maurice, PA, DM McKnight, L Leff, JE Fulghum, and **M Gooseff**. 2002. Direct observations of aluminosilicate weathering in the hyporheic zone of an Antarctic Dry Valley stream. *Geochimica et Cosmochimica Acta*, 66(8): 1335-1347.

NON-REFEREED PUBLICATIONS

- Wagener, T, M Weiler, B McGlynn, **M Gooseff**, T Meixner, L Marshall, K McGuire and M McHale. 2006. TEACHING HYDROLOGY Are we providing an interdisciplinary education? IAHS Newsletter 87, p. 10.
- Bernhardt, E, J Bradford, WB Bowden, J Duncan, **M Gooseff**, J Jones, C Kendall, B McGlynn, T Meixner, P Mulholland, D Robinson, and J Selker. 2006. Advancing Biogeochemical Research in the Field Hydrological Sciences: The CUAHSI Hydrological Measurement Facility - Biogeochemical Component. White Paper for the Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI), 27 pp.

Gooseff, MN. 2006. Review of OTIS and OTIS-P. *Southwest Hydrology*, 5(1): 41.

Gooseff, MN. 2003. Hyporheic Zone of a Stream. In *Water: Science and Issues*, ed. E. Julius Dasch, pp. 129-132, Macmillan Reference, USA, New York.

CONFERENCE PRESENTATIONS

Current year and prior 3 years included here; full listing available at my web page.

(* indicates student author, ** indicated advisee author, underline indicates undergraduate, ¹ denotes invited presentation)

2021 (21):

Gooseff, MN, C McIntire, **E Cantrell, E Matusz, P Vivek, and R Ghosh. 2021. Dissolved oxygen dynamics in the hyporheic zone of the East River, Colorado. Society for Freshwater Sciences Annual Meeting (virtual presentation)

Torrens, C, **MN Gooseff, DM McKnight. 2021. Dissolved organic carbon chemostasis in Antarctic polar desert streams. Society for Freshwater Sciences Annual Meeting (virtual presentation)

Gooseff, MN. 2021. Seasonal freeze-thaw dynamics under and around streams in the McMurdo Dry Valleys, Antarctica. Regional Conference on Permafrost (virtual presentation)

Hensley, R, J Singley, **MN Gooseff.** 2021. Nutrient and carbon dynamics of snowmelt pulses in Rocky Mountain streams. Society for Freshwater Sciences Annual Meeting (virtual presentation)

Briggs, MA, AM Helton, **MN Gooseff,** JR Barclay, N Terry, EM Moore, A Haynes, K Jackson, A Bisson, **M DiGiorno, E Arntzen, and X Chen. 2021. Linking innovative field measurements to models: characterizing reactive groundwater exchange along large rivers. Goldschmidt Conference (virtual presentation)

¹ **Bergstrom, A, **J Singley, **MN Gooseff.** 2021. What is a watershed? Shifting perspectives from long term research in the McMurdo Dry Valleys, Antarctica. American Geophysical Union Fall Meeting, New Orleans, LA.

Blaskey, D, K Musselman, A Newman, Y Cheng, J Koch, and **MN Gooseff. 2021. Observed and Modeled Streamflow Response to Hydroclimatic Changes in Alaska. American Geophysical Union Fall Meeting, New Orleans, LA.

*Lainis, A, R Neupauer, J Koch, and **MN Gooseff.** 2021. Numerical simulation of groundwater flow in partially frozen soils to investigate aufeis formation. American Geophysical Union Fall Meeting, New Orleans, LA.

Singley, J, **M Gooseff, D McKnight, and E Hinckley. 2021. Can stream corridor processes alone sustain chemostasis of primary nutrients? American Geophysical Union Fall Meeting, New Orleans, LA.

Singley, J, **MN Gooseff, M Salvatore, D McKnight, and E Hinckley. 2021. Physical and geological nitrogen storage along an entire intermittent stream corridor. American Geophysical Union Fall Meeting, New Orleans, LA.

*Bush, S, H Barnard, A Birch, **M Gooseff,** and D McKnight. 2021. Spatiotemporal patterns in hydrologic connectivity within a semi-arid montane headwater catchment in central Colorado. American Geophysical Union Fall Meeting, New Orleans, LA.

Wright, A, **M Gooseff, A Bergstrom, R Heindel, and J Singley. 2021. Persistent snow patch hydrologic contributions to Antarctic polar desert streams. American Geophysical Union Fall Meeting, New Orleans, LA.

Gooseff, MN, **J Singley, **C Torrens, and D McKnight. 2021. The importance of river corridors to stream biogeochemical cycling – Lessons from glacial meltwater streams in Antarctica. American Geophysical Union Fall Meeting, New Orleans, LA.

Gooseff, MN, R Hensley, M Briggs, M Cohen, A Bergstrom, **M DiGiorno, and J Brandt. 2021. High spatial resolution water quality in the Colorado and Green Rivers of the western US – Can we see the trees for the forest? American Geophysical Union Fall Meeting, New Orleans, LA.

- ¹ Terry, N, M Briggs, D Rey, E White, **M Gooseff**, E Arntzen, X Chen, ****M DiGiorno**, and J Lane. 2021. Floating transient electromagnetic mapping of rivers and estuaries. American Geophysical Union Fall Meeting, New Orleans, LA.
- **DiGiorno, M, M Gooseff, M Briggs, N Terry, X Chen, and E Arntzen.** 2021. Resolving Flow-Dependent Geochemical Indicators of Groundwater Exchange in the Columbia River, WA. American Geophysical Union Fall Meeting, New Orleans, LA.
- **Torrens, C, and M Gooseff.** 2021. Nutrient uptake dynamics in Antarctic polar desert streams. American Geophysical Union Fall Meeting, New Orleans, LA.
- Ward, A, S Wondzell, **M Gooseff**, T Covino, S Herzog, B McGlynn, and R Payn. 2021. Beyond the window of detection: Using multi-scale solute tracer studies to assess mass recovery at the detection limit. American Geophysical Union Fall Meeting, New Orleans, LA.
- Salvatore, M, B Szutu, H Matul, J Levy, E Sokol, J Barrett, L Fackrell, L Kuentz, and **M Gooseff.** 2021. Remotely investigating the spatial and temporal distribution of soil moisture in the McMurdo Dry Valleys of Antarctica: Hydrological and ecological implications. American Geophysical Union Fall Meeting, New Orleans, LA.
- Ghosh, R, **M Gooseff**, C McIntire, M Matusz, and ****E Cantrell.** 2021. Multi-season dissolved oxygen dynamics in the hyporheic zone of an alpine watershed, East River, Colorado. American Geophysical Union Fall Meeting, New Orleans, LA.
- McKnight, D, **M Gooseff**, K Maxwell, and L Allen. 2021. Streambed velocity profiles as a control on diatom species distribution in microbial mats in the streams in the McMurdo Dry Valleys, Antarctica. American Geophysical Union Fall Meeting, New Orleans, LA.

2020: very few due to pandemic.

2019 (11):

- **Bergstrom, A, M Gooseff, J Singley, and M Cohen.** 2019. A new application of tracer-based methods to quantify nutrient uptake in the supraglacial drainage network of a cold-based Antarctic glacier. *Oral Presentation*, American Geophysical Union Fall Meeting, San Francisco, CA.
- **Cantrell, E, M Gooseff, R Ghosh, and C McIntire.** 2019. How does streambed dissolved oxygen vary with hydrologic exchange: An evaluation from 15 months of high frequency measurements in the East River, CO. *Poster Presentation*, American Geophysical Union Fall Meeting, San Francisco, CA.
- Gooseff, MN, R Hensley, M Cohen, **MA Spangler, L Devito, P Decker, **A Bergstrom, and J Pitlick.** 2019. Feast and famine – Lagrangian water quality data collection and interpretation along the Upper Colorado River during high- and low-flow conditions. *Oral Presentation*, American Geophysical Union Fall Meeting, San Francisco, CA.
- Gooseff, MN, B Adams, JE Barrett, S Devlin, PT Doran, A Howkins, DM McKnight, JC Priscu, CD Takacs-Vesbach, R Morgan-Kiss and KA Welch.** 2019. From “valley of the dead” to “vibrant ecosystem” – How our understanding of life at the edge of Antarctica has evolved. *Poster Presentation*, American Geophysical Union Fall Meeting, San Francisco, CA.
- Gooseff, MN, **A Bergstrom, **J Singley, **A Wlostowski, K Welch, P Doran, and DM McKnight.** 2019. McMurdo Dry Valleys Stream Response to Annual Climate. *Oral Presentation*, International Symposium on Antarctic Earth Sciences, South Korea.
- Gooseff, MN, R Hensley, M Cohen, M Spangler, and L DeVito.** 2019. Lagrangian Water Quality Data Collection Along the Upper Colorado River During Low Flow Conditions of 2018. *Poster Presentation*, National Water Quality Monitoring Annual Meeting, Denver, CO.
- ¹Gooseff, MN.** 2019. Hydrologic and water quality responses to hydroclimatic change over five decades in the McMurdo Dry Valleys, Antarctica. *Oral Presentation*, National Water Quality Monitoring Annual Meeting, Denver, CO.

- **Heindel, R, **A Bergstrom, **J Singley, D McKnight, *J Darling, *B Lukkari, K Welch, and **M Gooseff**. 2019. Diatoms trace the retention and processing of organic matter in hyporheic sediments in the McMurdo Dry Valleys, Antarctica. *Oral Presentation*, American Geophysical Union Fall Meeting, San Francisco, CA.
- **Singley, JG **MN Gooseff**, K Singha, and ES Hinckley. 2019. Delimiting hyporheic area and sub-compartments using electrical resistivity data and time series clustering algorithms. *Oral Presentation*, American Geophysical Union Fall Meeting, San Francisco, CA.
- **Spangler, MA, **MN Gooseff**, R Hensley, M Cohen, and **P Hendrickson. 2019. Effects of diversions and impoundments on continuum of Upper Colorado River basin Processes. Society of Freshwater Science Annual Meeting, Salt Lake City, UT.
- **Torrens, C, **MN Gooseff**, and DM McKnight. 2019. Examining DOC-q chemostasis in glacial meltwater streams of the McMurdo Dry Valleys, Antarctica. *Oral Presentation*, American Geophysical Union Fall Meeting, San Francisco, CA.

SERVICE, PROFESSIONAL, AND OUTREACH ACTIVITIES

Editorships:

- *Water Resources Research*, Associate Editor (2011-2015);
- *Hydrology and Earth System Sciences*, Associate Editor (2009-2015);
- *Eos, Transactions of the American Geophysical Union*, Hydrology Section representative to the Editorial Board (2009-2019)
- *WIREs Water*, Associate Editor (2012-2019);
- Guest co-editor, *Freshwater Science* Special Issue on Stream-Groundwater Interactions
- Guest co-editor, *Hydrology and Earth Systems Science* Special Issue, *Restored River Corridor Dynamics*, http://www.hydrol-earth-syst-sci.net/special_issue137.html

Peer Reviewer for (in the past 10 years): *Advances in Water Resources, Aquatic Sciences, Arctic, Antarctic, and Alpine Research, Biogeochemistry, Cold Regions Science & Technology, Ecological Applications, Ecosystems, Environmental Science & Technology, Freshwater Biology, Geophysical Research Letters, Hydrological Processes, Journal of the American Water Resources Association, Journal of Applied Meteorology, Journal of Environmental Management, Journal of Geophysical Research-Biogeosciences, Journal of Geophysical Research-Earth Surface, Journal of Hydrology, Limnology & Oceanography, Permafrost and Periglacial Processes, Water Resources Research*

Member of (presently or recently):

- | | |
|---|---|
| <ul style="list-style-type: none"> • American Geophysical Union • Ecological Society of America • Association for the Sciences of Limnology & Oceanography | <ul style="list-style-type: none"> • American Society of Civil Engineers • Geological Society of America • Society for Freshwater Sciences |
|---|---|

2021:

- Member, *Polar Research Board* of the National Academy of Sciences (2017-present)
- Committee Member, National Academies Mid-term Assessment Report on NSF Antarctic Science Priorities Decadal Plan ([link available here](#))
- Co-Chair, Environmental Systems Science Working Group, BERAC International Benchmarking Analysis, Department of Energy
- Commissioner and Chair, *Water Quality Control Commission*, State of Colorado
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Executive Committee
- Chair of Civil, Environmental, & Architectural Engineering Dept JEDI Committee
- Chair of INSTAAR Personnel Committee

- Invited Presentations:
 - Plenary (virtual) for Association of Polar Early Career Scientists (APECS)
 - Public presentation (virtual) for CU Natural History Museum (150+ attending)

2020:

- Member, *Polar Research Board* of the National Academy of Sciences (2017-present)
- Committee Member, National Academies Mid-term Assessment Report on NSF Antarctic Science Priorities Decadal Plan ([link available here](#))
- Commissioner, *Water Quality Control Commission*, State of Colorado
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Executive Committee
- Chair of INSTAAR Personnel Committee

2019:

- Member, *Polar Research Board* of the National Academy of Sciences (2017-present)
- Commissioner, *Water Quality Control Commission*, State of Colorado
- Member, *Board of Directors*, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUHASI)
- Education Committee Chair, CWEST (University of Colorado)
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Curriculum Committee
- Civil, Environmental, & Architectural Engineering Dept. Executive Committee
- INSTAAR Director Search Committee member
- INSTAAR Isotope Biogeochemist Search Committee member
- Invited Presentations:
 - Luxembourg Institute of Science and Technology
 - Colorado School of Mines
 - CU Office of Postdoctoral Affairs

2018:

- Member, *Polar Research Board* of the National Academy of Sciences (2017-present)
- Commissioner, *Water Quality Control Commission*, State of Colorado
- Member, *Board of Directors*, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUHASI)
- Member, *Executive Board of the LTER Network*
- Education Committee Chair, CWEST (University of Colorado)
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Curriculum Committee
- INSTAAR Director Search Committee member
- Invited Presentations:
 - University of Zurich
 - Ecological Society of America Annual Meeting

2017:

- Member, *Polar Research Board* of the National Academy of Sciences (2017-present)
- Commissioner, *Water Quality Control Commission*, State of Colorado
- Member, *Board of Directors*, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUHASI)
- Past-Chair of the Water Quality Technical Committee, AGU
- Member, *Executive Board of the LTER Network*

- Education Committee Chair, CWEST (University of Colorado)
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Curriculum Committee
- CEAE Faculty Search Committee member
- Invited Presentations:
 - Gordon Research Conference on Hydrology & Biogeochemistry,
 - HydroEco (University of Birmingham, UK),
 - Ecological Society of America
 - Great Antarctic Climate Hack

2016:

- Member, *Board of Directors*, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUHASI)
- Chair of the Water Quality Technical Committee, AGU
- Convener for AGU Fall Meeting 2016 session: *Advances in Water Quality*
- Member, *Executive Board of the LTER Network*
- Education Committee Chair, CWEST (University of Colorado)
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Curriculum Committee
- Civil, Environmental, & Architectural Engineering Dept. Award Committee
- Invited Presentations:
 - CU Environmental Studies Fall Colloquium Series,
 - CU INSTAAR fall seminar series,
 - CUAHSI Biennial Meeting (fill in for cancelled plenary)

2015:

- Member, *Board of Directors*, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUHASI)
- Chair of the Water Quality Technical Committee, AGU
- Member, Hydrologic Sciences Award Committee, AGU
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Award Committee
- Convener for AGU Fall Meeting 2015 session: *The Land-Water-Energy Nexus: Hydrologic and Carbon Implications of Conventional, Unconventional, and Biofuel-Based Energy Development* (poster and oral session)
- Invited Presentations: CU Hydrologic Sciences Fall Seminar

2014:

- Member, *Board of Directors*, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUHASI)
- Member, Department of Soil & Crop Sciences Search Committee (CSU)
- Deputy Chair of the Water Quality Technical Committee, AGU
- Member, Hydrologic Sciences Award Committee, AGU
- Convener for AGU Fall Meeting 2014 session: *Water Quality Systems Poster Session*
- Invited Speaker:
 - Colorado State University – Geosciences Colloquium
 - Colorado State University – Spring Water Seminar Series
 - North Dakota State University – Geosciences Dept. Seminar
 - University of North Dakota – Geological Sciences and Engineering Seminar

2013:

- Member, Board of Directors, Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUHASI)
- Chair, Penn State University Water Task Force
- Member, *Scientific Advisory Board on Connectivity of Waters* for US EPA
- Member, Department of Geosciences Faculty Search Committee (PSU)
- Panelist, National Science Foundation
- Co-Chair of the Water Quality Technical Committee, AGU
- Member, Hydrologic Sciences Award Committee, AGU
- Convener for AGU Fall Meeting 2013 session: *Taking the Pulse of Streams and Watersheds*
- Invited Speaker:
 - Colorado State University – NREL fall seminar series
 - Idaho State University – Geosciences Department Seminar
 - Swedish University of Agricultural Sciences
 - ModCARE conference Helmholtz University (Germany)
 - Colorado School of Mines – Civil & Environmental Engineering Dept. Seminar

2012:

- Chair, Penn State University Water Task Force
- Member, Department of Geosciences Faculty Search Committee
- Member, Department of Agricultural and Biological Engineering Search Committee
- Convener for AGU Fall Meeting 2012 session: *Deciphering Hydrological and Biogeochemical Processes in Catchment Studies With a Focus on New Measurement Technologies and Hysteresis Analysis* (H11L)
- Member of the Water Quality Technical Committee, American Geophysical Union

2011:

- Member, Civil and Environmental Engineering Faculty Search Committee
- Member, Civil and Environmental Engineering Promotion & Tenure Committee
- Panelist, National Science Foundation
- Chair, Review Committee for National Science Foundation Office of Polar Programs
- Member of the Water Quality Technical Committee, American Geophysical Union
- Invited Speaker:
 - Michigan Tech, Department of Civil Engineering
 - National Science Teachers Association Annual Meeting, Polar Symposium

2010:

- National Science Teachers Association webinar presentation on the McMurdo Dry Valleys
- Panelist, National Science Foundation
- Secretary, Hydrology Section of the American Geophysical Union
- Faculty Advisor, *American Society of Civil Engineers* Student Chapter, Penn State University
- Member of the Water Quality Technical Committee, American Geophysical Union
- Member, Graduate Committee of Department of Civil & Environmental Engineering
- Invited Speaker:
 - Penn State Frontiers of Science Public Lecture
 - Syracuse University, Department of Earth Sciences
 - Penn State Water Conference, Inaugural Meeting

2009:

- Secretary, Hydrology Section of the American Geophysical Union
- Convener for AGU Fall Meeting 2009 session: *Response of the Arctic Landscape to a Warming Climate* (U41C, U44A)
- Hydrology Editorial Board member, *Eos, Transactions of the American Geophysical Union*
- Member of the Water Quality Technical Committee, American Geophysical Union
- Invited Speaker:
 - TU Delft, Civil Engineering Department (Delft, Netherlands)
 - University of Delaware, Department of Geography

2008:

- Convener for AGU Fall Meeting 2008 session: *Deciphering the Role of Surface and Subsurface Processes on Solute Dynamics at the Catchment Scale* (H11B, H13I, H14B)
- Secretary, Hydrology Section of the American Geophysical Union
- Panelist, National Science Foundation
- Hydrology Editorial Board member, *Eos, Transactions of the American Geophysical Union*
- Member of the Water Quality Technical Committee, American Geophysical Union
- Contributor for Pennsylvania Groundwater for Teachers Symposium, Oct.
- Invited Speaker:
 - University of California, Berkeley, Catchment Science Symposium;
 - Pennsylvania Groundwater Institute for High School Teachers;
 - University of Minnesota, St. Anthony Falls Laboratory;
 - Temple University, Department of Civil & Environmental Engineering;
 - University of Nevada, Reno, Hydrologic Sciences Colloquium;
 - Cary Institute of Ecosystem Studies
 - Penn State University, Earth Talks Seminar series
 - Penn State University, Department of Civil & Environmental Engineering

2007:

- Convener for AGU Fall Meeting 2007 session: *Water Quality in Hydrologic Systems* (H51B)
- Convener for AGU Fall Meeting 2007 session: *Polar Biogeochemistry* (B42A)
- Convener for GSA Annual Meeting 2007 session: *T45. Advances in Understanding and Detection of Groundwater-Stream Water Interactions across Temporal and Spatial Scales*
- Convener for GSA Annual Meeting 2007 session: *T31. Innovations and Advances for Measuring and Characterizing Groundwater-Surface Water Interaction (Posters)*
- LTER Site Review Panelist, National Science Foundation
- Member of the Water Quality Technical Committee, American Geophysical Union
- Invited Speaker:
 - MIT, Department of Civil & Environmental Engineering;
 - Stroud Water Research Center;
 - University of Illinois, Chicago, Department of Earth & Environmental Sciences;
 - Colorado State University, Geosciences Department;
 - University of Colorado, Institute of Arctic and Alpine Research;
 - University of Alaska Southeast, public lecture;
 - Oregon State University, Hydrology Seminar Series;
 - US Forest Service Rocky Mountain Research Station, Ft. Collins, CO

2006:

- Member of the Water Quality Technical Committee, American Geophysical Union
- Panelist, National Science Foundation
- Convener for AGU Fall Meeting 2006 session: *Advances in Process Understanding and Implications of Exchanges Across the Sediment-Water Interface* (oral: B22C, posters: B23A)

- Convener for AGU Fall Meeting 2006 session: *Toward Defining a Quantitative Carbon Mass Balance for Watersheds* (oral: B52B, posters: B53A)
- Participant in CUAHSI panel on biogeochemical measurement technology, resulting in the following white paper: Bernhardt, E., J. Bradford, WB Bowden, J Duncan, M Gooseff, J Jones, C Kendall, B McGlynn, T Meixner, P Mulholland, D Robinson, and J Selker. 2006. *Advancing Biogeochemical Research in the Field Hydrological Sciences: The CUAHSI Hydrological Measurement Facility - Biogeochemical Component*. White Paper for the Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI), 27 pp.

2005:

- Member of the Water Quality Technical Committee, American Geophysical Union
- Convener for AGU Fall Meeting 2005 session: *Water Quality of Hydrologic Systems Posters* (H31B)
- Convener for ASLO Aquatic Sciences Meeting 2005 session: *Feedbacks Among Physical and Biogeochemical Processes in Flowing Waters* (TS38).
- Convener for Joint Assembly of NABS Annual Meeting and AGU Spring Meeting 2005 session: *Nitrogen Cycling in Freshwaters* (Orals: NB21D, NB22E, NB23E, NB24F, NB31D, Poster: NB33F)
- Invited Speaker: University of Nebraska, Geosciences Department

2004:

- Member of the Water Quality Technical Committee, American Geophysical Union
- Convener for AGU Fall Meeting 2004, *Hydrological and Biogeochemical Connections Between Catchments and Streams: Implications for Water Quality* (Orals: H31F, H44B, Poster: H51B)

2003:

- Member of the Water Quality Technical Committee, American Geophysical Union
- Convener for AGU Fall Meeting 2003, *Water Quality of Hydrologic Systems Posters* (H51C)

2002:

- Convener for AGU Fall Meeting 2002, Hydrology session, *Linking Hydrology and Biogeochemistry* (Orals: H51D, Posters: H52D)

Pre-2002:

- LTER Graduate Student Representative for the McMurdo Dry Valleys LTER site (1999 - 2001)
- Graduate Student Representative to the INSTAAR directorate (2000 - 2001)
- Assistance with a University of Colorado Community Outreach project, studying watershed processes for a local community water supply (August 2001)