MICHAEL N. GOOSEFF
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Curriculum Vitae

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 Strzepek
B.C.E., 1996	Civil Engineering, Georgia Institute of Technology, Atlanta, GA

PROFESSIONAL EXPERIENCE

2023-	Associate Dean for Research, College of Engineering & Applied Science, Univ. of Colorado
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)
- Civil Engineering Senior Design (1 of 4 instructors, CU: Sp2024)
- 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, Sp2023)
- 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, Sp2023)
- 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: Legrangian and Eulerian Applications (CUAHSI), co-organizer with M Cohen, University of Florida

2016 Techniques for Stream-Groundwater Investigations (CUAHSI), co-organizer with K Singha; Crested Butte, CO

2013 Techniques for Stream-Groundwater Investigations (CUAHSI), co-organizer with K Singha; Penn State University

AWARDS AND HONORS

- Robert L. Stearns Award, CU Boulder Alumni Association, 2022 https://tinyurl.com/5hecpps2
- *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 two 3-year terms (2017- 2022)
- 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:
  - Dylan Blaskey (PhD, CU)
    - Horton Research Award, American Geophysical Union, Hydrology Section, 2023;
    - Outstanding Student Presentation Award, American Geophysical Union, Fall Meeting 2022
  - 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

$38M+ in total collaborative research projects since 2003; most significant grants included; full listing is available at my web page.

1. *LTER: MCM6 – The roles of legacy and ecological connectivity in a polar desert ecosystem* http://mcmlter.org
   Principal Investigators: **Michael Gooseff** (lead), Melisa Diaz (OSU), Byron Adams (BYU), Jeb Barrett (Virginia Tech), Peter Doran (LSU), Hilary Dugan (Univ of Wisconsin), Rachael Morgan-Kiss (Miami Univ), Mark Salvatore (Northern Arizona Univ), Tyler Mackey, Cristina Takacs-Vesbach (Univ of New Mexico) Lydia Zeglin (Kansas State Univ)
   Funding Source: National Science Foundation Office of Polar Programs
   Total Award: $7.65M, Award Period: Sep 2023 – Aug 2029

2. *Boat-based multiparameter longitudinal water-quality surveys for the Upper Colorado River Basin*
   Principal Investigator: **Michael Gooseff** (lead)
   Funding Source: US Geological Survey
   Total Award: $ 139,682, Award Period: May 2023 – April 2026

3. *LTER: Ecosystem response to amplified landscape connectivity in the McMurdo Dry Valleys, Antarctica* http://mcmlter.org
   Principal Investigators: **Michael Gooseff** (lead), 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

4. *Future of Aquatic Flows in the North Central Climate Adaptation Science Center: Towards a Synthesis of Changing Hydrology Under Increasing Climate Change and Disturbance Pressures.*
   Principal Investigators: Holly Barnard (lead), **Michael Gooseff**, Sheila Murphy (USGS), Andrew Birch (NPS) and Brian Ebel (USGS).
   Funding Source: USGS Climate Adaptation Science Center
   Total Award: $351,884 (all to CU), Award Period: Sept 2022 – Aug 2024

5. *NNA Track 1: Collaborative Research: Climate sensitivity of Alaskan rivers, fish and communities as told through storylines*
   Principal Investigators (at CU): Keith Musselman (lead), **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

6. *Resolving Aquifer Controls on Larger River-Groundwater Exchanges of Mass and Energy*
   Principal Investigators: **Michael Gooseff** (lead), 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 (no-cost extension to 2023)

7. *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 (lead; Univ of Northern AZ), Jeb Barrett (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

8. *Quantifying Distributed Exchanges of Groundwater with River Corridors*
   Principal Investigators: **Michael Gooseff** (lead), 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

9. *How do interactions of transport and stoichiometry maximize stream nutrient retention?*
   Principal Investigators: Ricardo Gonzalez-Pinzon (lead; 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

10. *Continuous Metabolism and Nutrient Uptake Across the River Continuum*
    Principal Investigators: Matt Cohen (lead; Univ. of Florida), **Michael Gooseff** Funding Source: NSF, Ecosystems Cluster
    Total Award: $877k ($393k to Gooseff), Award Period: Aug 2016 – Jul 2019

11. *Arctic Oases - How does the delayed release of winter discharge from aufeis affect the ecosystem structure and function of rivers*
    Principal Investigators: Alex Huryn (lead; 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

12. *Increased Connectivity in a Polar Desert Resulting from Climate Warming: McMurdo Dry Valley LTER Program* http://www.mcmlter.org
    Principal Investigators: **Michael Gooseff (lead, 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

13. *The McMurdo Dry Valleys – A Landscape on the Threshold of Change*
    Principal Investigators: Andrew Fountain (lead; 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

14. *Effects of climate dynamics on coupled hydrology and biogeochemistry of arctic hillslopes* Principal Investigators: Tamara Harms (lead), 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

15. *EAGER: Are the Dry Valleys Getting Wetter? A Preliminary Assessment of Wetness Across the McMurdo Dry Valleys Landscape*
    Principal Investigators: **Michael Gooseff** (lead), 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

16. *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 (lead; 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

17. *What are the seasonal controls on stream-riparian groundwater exchange during baseflow recession in headwater catchments?*
    Principal Investigators: **Michael Gooseff** (lead), 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

18. *The role of snow patches on distribution of soil microbial communities and biogeochemical cycling in the Antarctic Dry Valleys*
    Principal investigators: Jeb Barrett (lead; 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

19. *Spatial and Temporal Influences of Thermokarst Failures on Surface Processes in the Arctic*
    Principal Investigators: W Breck Bowden (lead; 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

20. *MOdular Curriculum for Hydrological Advancement (MOCHA) - Toward an Online Faculty Learning Community for Hydrology Education*
    Principal Investigators: Thorsten Wagener(lead), 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

21. *Collaborative Research: Understanding the Scaling of N Cycle Controls Throughout a River Network*
    Principal Investigators: Wil Wollheim (lead; 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

22. *Thermokarst distribution and characterization in the National Park Service Arctic Network*
    Principal Investigators: W. Breck Bowden (lead; Univ. Vermont), **Michael Gooseff**, Jeremy Jones, and Ted Schuur
    Funding Source: National Park Service (US Dept of Interior)
    Award to Gooseff: $54,729, Award Period: May 2006 – Dec 2009

23. *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 (lead; 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

24. *Hydrologic controls over biogeochemistry and microbial community structure and function across terrestrial/aquatic interfaces in a polar desert*
Principal Investigators: **Michael Gooseff** (lead), 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)

25. *Hydrological linkages between landscapes and streams: Transferring reach and plot scale understanding to the network and catchment scales*.
Principal Investigators: Brian McGlynn (lead; 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*
A Wright (PhD) – *Antarctic stream biogeochemical dynamics*
J Collins (PhD) – *Antarctic stream nutrient retention*
J Pensky (postdoc) – *Climate change impacts on US river hydrology and water quality*
K Thapa-Magar (postdoc) – *Modeling soil habitat dynamics in the McMurdo Dry Valleys, Antarctica*

Completed:

2023

M Vanderwilt (MS) – *Characterizing Velocity Gradients in the McMurdo Dry Valleys with High-Resolution Optical Imagery, Feature-Tracking Methods, and In Situ Observations*

2022

M Digiorno (MS) – *Resolving Flow-Dependent Indicators of Groundwater Exchange in the Columbia River, WA*
C Torrens (PhD) – *Biogeochemical Dynamics and Response to Permafrost Degradation in McMurdo Dry Valley Streams, Antarctica*

2021

J Singley (PhD, co-advised with Eve Hinckley; now a prof at Roger Williams Univ) –*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 Wyoming) - *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 Gerecht (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 associate 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 = 48 as of Jun 2024, webofknowledge)
* grad student; ** grad advisee/postdoc; <u>underline</u> indicates undergrad advisee

*Wright, A, **M Gooseff**, A Bergstrom, and K Welch. 2024. Hydrologic and geochemical contributions from snow to streamflow in the McMurdo Dry Valleys of Antarctica. *Hydrological Processes*, 10.1002/hyp.15195.

Blaskey, D, **MN Gooseff, Y Cheng, AJ Newman, JC Koch, and KN Musselman. 2024. A high-resolution, daily hindcast (1990-2021) of Alaskan river discharge and temperature from coupled and optimized physical models. *Water Resources Research*,60, e2023WR036217.

*Lainis, A, RM Neupauer, JC Koch, and **MN Gooseff**. 2024. Seasonal and decadal subsurface thaw dynamics of an aufeis feature investigated through numerical simulations. *Hydrological Processes*, doi: 10.1002/hyp.15106.

*Dorley, J, **J Singley, T Covino, K Singha, M Gooseff, D Van Horn, and R Gonzalez-Pinzon.

2023. Physical and stoichiometric controls on stream respiration in a headwater stream. *Biogeosciences*, 20: 3353-3366, doi: 10.5194/bg-20-3353-2023.

Gooseff, MN, R Ghosh, *E Cantrell, ME Matusz, C McIntire, and V Philip. 2023. Hydrologic controls on hyporheic removal of oxygen during two distinct flow seasons in the East River, Colorado. *Water Resources Research*, 59: e2021WR031139, doi:10.1029/2021WR031139.

Singley, JG, **MN Gooseff, MR Salvatore, DM McKnight, and ES Hinckley, 2023. Flux or Famine: Physical and biotic storage of nitrogen along an intermittent Antarctic stream corridor. *Freshwater Science*, 42(3): 229-246, doi:10.1086/725676.

*Dorely, J, **J Singley, T Covino, K Singha, **M Gooseff**, and R. González-Pinzón. 2023. Physical and stoichiometric controls on stream respiration in a headwater stream. *Biogeosciences*, 20: 3353-3366, doi:10.5194/bg-20-3353-2023.

Salvatore, M.R.; Barrett, J.E.; LE Fackrell, ER Sokol, JS Levy, LC Kuentz, **MN Gooseff**, BJ Adams, SN Power, JP Knightly, HM Matul, B Szutu, and PT Doran. 2023. The Distribution of Surface Soil Moisture over Space and Time in Eastern Taylor Valley, Antarctica. *Remote Sensing*,15: 3170, doi: 10.3390/rs15123170.

*Bush, SA, AL Birch, SR Warix, PL Sullivan, **MN Gooseff**, DM McKnight, and HR Barnard. 2023. Dominant source areas shift seasonally from longitudinal to lateral contributions in a montane headwater stream. *Journal of Hydrology*, 617(C), 129134, 10.1016/j.jhydrol.2023.129134.

Bergstrom, A, KA Welch, and **MN Gooseff. 2023. Spatial patterns of major ions and their relationship to sediment concentration in near surface glacier ice, Taylor Valley, Antarctica. *Journal of Geophysical Research, Earth Surface*, 128, e2022JF006980.

Blaskey, D, JC Koch, **M Gooseff, A Newman, Y Cheng, JA O'Donnell, and KN Musselman. 2023.. Recent (1960-2019) warming has increased cold and shoulder season discharge of Alaskan rivers. *Environmental Research Letters*, 18(2): 024042. doi:10.1088/1748-9326/acb661**.s**

Ward, AS, SM Wondzell, **MN Gooseff**, T Covino, S Herzog, B McGlynn, and RA Payn. 2023. Breaking the window of detection: Using multi-scale solute tracer studies to assess mass recovery at the detection limit. *Water Resources Research*, 59(3): e2022WR032736.

BERAC. 2022. *U.S. Scientific Leadership Addressing Energy, Ecosystems, Climate, and Sustainable Prosperity: Report from the BERAC Subcommittee on International Benchmarking*, DOE/SC-0208. M. McCann and P. Reed, eds. Biological and Environmental Research Advisory Committee. DOI:10.2172/1895129. [Chapter 4 co-lead author]

González-Pinzón, R, *J Dorley, **J Singley, K Singha, **M Gooseff**, and T Covino. 2022. TIPT: The Tracer Injection Planning Tool. *Environmental Modelling & Software*, 156: 105504.

Singley, JG, K Singha, **MN Gooseff, R González-Pinzón, TP Covino, AS Ward, *J Dorley, and ES Hinckley. 2022. Identification of hyporheic extent and functional zonation during seasonal streamflow recession by unsupervised clustering of time-lapse electrical resistivity models. *Hydrological Processes*, 36(10): e14713.

*Emanuelson, K, T Covino, AS Ward, *J Dorley, and **M Gooseff**. 2022. Conservative solute transport processes and associated transient storage mechanisms: Comparing streams with contrasting channel morphologies, land use and land cover. *Hydrological Processes*, 36(4): e14564, doi: 10.1002/hyp14564.

Hudson, AR, DPC Peters, JM Blair, DL Childers, PT Doran, K Geil, **M Gooseff**, KL Gross, NM Haddad, MA Pastore, JA Rudgers, O Sala, EW Seabloom, and G Shaver. 2022. Cross-site comparisons of dryland ecosystem response to climate change in the US Long-Term Ecological Research network. *BioScience*, 72(9): 889-907

Torrens, CL, **MN Gooseff, and DM McKnight. 2022. Dissolved organic carbon chemostasis in Antarctic polar desert streams. *Journal of Geophysical Research: Biogeosciences*, 127,

e2021JG006649, doi: 1029/2021JG006649.

Hensley, R, **J Singley, and **M Gooseff**. 2022. Pulses within pulses: Concentration-discharge relationships across temporal scales in a snowmelt-dominated Rocky Mountain catchment. *Hydrological Processes*, 35(9): e14700.

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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.

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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.

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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.

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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.

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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

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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.
(*student author, ** advisee author, underline indicates undergraduate,
[I] invited presentation)

2023 (8):

Gooseff, MN, M Digiorno, N Terry, M Briggs, X Chen, and E Arntzen. 2023. Resolving Flow-Dependent Indicators of Groundwater Exchange in the Columbia River, WA. Department of Energy Environmental System Science Annual Meeting, May 2023, Bethesda, MD.

[I]Gooseff, MN. 2023. Impacts of snowmaking on watershed hydrology and biogeochemistry. Conference on Winter Sports and Climate Change, CU Boulder.

**Blaskey, D, MN Gooseff, Y Cheng, J Koch, AJ Newman, and KN Musselman. 2023. Alaskan river temperatures projected to steadily increase by mid-century despite disparate trends in summer streamflow (H31D-02). American Geophysical Union Fall 2023 Meeting, San Francisco, CA.

Gooseff, MN, Barrett, JE, BJ Adams, PT Doran, HA Dugan, K Myers, MR Salvatore, *SN Power, *M Snyder, and **A Wright**.** 2023. Weather whiplash in a terrestrial polar ecosystem following the March 2022 Antarctic weather anomaly (GC43F-1363). American Geophysical Union Fall 2023 Meeting, San Francisco, CA.

Gooseff, MN, Briggs, MA, and **M Digiorno. 2023. Longitudinal Water Quality Evolution Along the Upper Colorado River Under Drought Conditions (H41N-1955). American Geophysical Union Fall 2023 Meeting, San Francisco, CA.

Salvatore, MR, **K Thapa-Magar, E Sokol, JE Barrett, S Power, MN Gooseff, P Knightly, L Fackrell, M Wood, J Levy, PT Doran, and B Adams. 2023. Mapping and modeling the drivers of terrestrial ecosystem processing in the McMurdo Dry Valleys, Antarctica (C51C-0953). American Geophysical Union Fall 2023 Meeting, San Francisco, CA.

**Vanderwilt, M, and MN Gooseff. 2023. Adapting feature-tracking methods to estimate velocity gradients of small, sparsely-featured alpine and outlet glaciers in the McMurdo Dry Valleys, Antarctica (C21B-08). American Geophysical Union Fall 2023 Meeting, San Francisco, CA.

**Wright A, M Gooseff, and M Cohen. 2023. Temporal and spatial patterns of polar desert stream metabolism in the McMurdo Dry Valleys, Antarctica (B11K-1921). American Geophysical Union Fall 2023 Meeting, San Francisco, CA.

2022 (8):

Neupauer, RM, *A Lainis, J Koch, and **M Gooseff**. 2022. Aufeis formation and climate change. International Association of Hydrologic Sciences Scientific Assembly, Montpellier, France.

Gooseff, M, **M Digiorno, M Briggs, N Terry, E Arntzen, and X Chen. 2022. Where do inflows occur along western Rivers? Using water quality profies and geophysics to identify inputs to rivers. Department of Energy ESS Annual Meeting.

Gooseff, M, Ecological Functions from the wet side of the Dry Valleys. Antarctic ICON (Integrated Science to Inform Antarctic and Southern Ocean Conservation) meeting, Cambridge, UK.

Blaskey, D, J Koch, **MN Gooseff, Y Cheng, AJ Newman, and KN Musselman. 2022. Developing a high resolution model of historic (1990-2020) Alaskan river temperatures, H43B-08. American Geophysical Union Fall 2022 Meeting, Chicago, IL.

*Bush, SA, AL Birch, SR Warix, P Sullivan, **MN Gooseff**, DM McKnight, and HR Barnard. 2022. Dominant source areas shift seasonally from longitudinal to lateral contributions in a montane headwater stream, H56A-02. American Geophysical Union Fall 2022 Meeting, Chicago, IL.

Evans, S, S Godsey, C Chew, B Yokeley, K Hatch, E Ferm, RH Harris, BT Crosby, **MN Gooseff**, AA Mohammed, and WB Bowden. 2022. Saturation dynamics along thawing continuous permafrost hillslopes, EP26B-03. American Geophysical Union Fall 2022 Meeting, Chicago, IL.

Hensley, B, *J Singley, and **M Gooseff**. 2022. High-frequency sensors reveal variable concentration- discharge relationships across temporal scales in a snowmelt-dominated Rocky Mountain catchment, H13G-06. American Geophysical Union Fall 2022 Meeting, Chicago, IL.

Salvatore, M, JE Barrett, L Fackrell, E Sokol, J Levy, L Kuentz, **MN Gooseff**, B Adams, H Matul, B

Szutu, P Knightly, and PT Doran. 2022. Estimating soil moisture content in Antarctic soils using high-resolution remote sensing data, H32K-08. American Geophysical Union Fall 2022 Meeting, Chicago, IL.

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)

*I***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 giological 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 Begstrom, 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.

*I*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.

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): *Nature, Nature Water, 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):

- American Geophysical Union
- Ecological Society of America
- Association for the Sciences of Limnology & Oceanography
- American Society of Civil Engineers
- Geological Society of America
- Society for Freshwater Science

2023:

- Commissioner, *Water Quality Control Commission*, State of Colorado; ended May 2023
- Co-Director of the CU Hydrologic Sciences Graduate Program
- Civil, Environmental, & Architectural Engineering Dept. Executive Committee (spring)
- Member of INSTAAR Personnel Committee
- Member, *Campus Misconduct Advisory Committee* (CMAG), University of Colorado Boulder

- Member, *Standing Committee on Research Misconduct* (SCRM), University of Colorado Boulder
- Member, *Scientific & Operations Advisory Committee,* Polar Geospatial Center, Univ of Minnesota
- Invited Presentation:
    - Future of Snow Sports and Climate Change conference, Boulder, CO

2022:

- Member, *Polar Research Board* of the National Academy of Sciences (2017-2022)
- 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
- Member, *Scientific & Operations Advisory Committee,* Polar Geospatial Center, Univ of Minnesota
- Invited Presentation:
    - Antarctic ICON (Integrated Science to Inform Antarctic and Southern Ocean Conservation) meeting, Cambridge, UK.

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
- Member, *Scientific & Operations Advisory Committee,* Polar Geospatial Center, Univ of Minnesota
- 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
- Member, *Scientific & Operations Advisory Committee,* Polar Geospatial Center, Univ of Minnesota

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).