

Diane M. McKnight- Distinguished Professor

Institute of Arctic and Alpine Research
4001 Discovery Drive, University of Colorado
Boulder, CO 80303-0450

Citizenship: United States of America

I. EDUCATION

1979, Ph.D., Environmental Engineering, Massachusetts Institute of Technology
1978, M.S., Civil Engineering (Water Resources), Massachusetts Institute of Technology
1975, B.S., Mechanical Engineering, Massachusetts Institute of Technology

II. PROFESSIONAL EXPERIENCE

2015-2018-Program Officer, National Science Foundation, Office of Polar Programs (on leave from University of Colorado)
2013-2015, Director, Center for Water, Earth Science and Technology, University of Colorado
2004-2015, Co-Director Hydrologic Sciences Graduate Program, University of Colorado
1999-present, Professor of Civil, Environmental and Architectural Engineering, University of Colorado, 2022 Distinguished Professor
1996-present, Fellow of INSTAAR, University of Colorado
1996-2004, Associate Director, Mountain Research Station, University of Colorado
1996-1999, Associate Professor of Civil, Environmental and Architectural Engineering, University of Colorado
1979-1996, Research hydrologist, National Research Program, U. S. Geological Survey
1986-1992, Research Advisor -Ecology, Water Resources Division, U. S. Geological Survey
1979-1980, National Research Council Fellow, U. S. Geological Survey
1975-1979, INCRA Fellow, Massachusetts Institute of Technology

III. HONORS AND SCHOLARLY AWARDS

2022, Distinguished Professor, University of Colorado
2022, Clarence L. Eckel Faculty Prize for Excellence, Department of Civil, Environmental and Architectural Engineering, University of Colorado
2021, Robert E. Horton Medal, American Geophysical Union
2019-20 Distinguished Lecturer, Association of Environmental Engineering and Science Professors
2015, Distinguished Research Lecturer, University of Colorado
2014, Faculty Research Award, College of Engineering and Applied Science, University of Colorado
2014, John Dalton Medal, European Geophysical Union
2014, American Geophysical Union, Hydrology Career Award

2012, National Academy of Engineering, member
2009, American Association for the Advancement of Science, Fellow
2008, Honorary Chair, Humic Sciences and Technology Conference XI
2005, American Geophysical Union, Hydrology Section, Langbein Lecturer
2003, American Geophysical Union, Fellow
1995, USGS, Meritorious Service Award
1985, 1993, USGS, Performance Award
1978, Arthur T. Ippen Award, Ralph M. Parsons Laboratory, MIT

IV. RESEARCH INTERESTS:

Hydrology, conducting studies of coupled ecological, biogeochemical and hydrologic processes in lakes, streams, and watersheds, primarily in polar and mountain regions. Studies include the response of microbial communities in lakes and streams to climate-driven hydrologic change, the biogeochemistry of natural organic material and biogeochemical processes in acid mine drainage streams and in arsenic contaminated groundwater. Another aspect of this research is development of reactive solute transport models of biogeochemical and hydrologic processes in stream systems.

V. PROFESSIONAL SERVICE:

National Research Council (NAESM): Committee on Climate Change and Water Resources Management, member 1990-1992, Committee on Antarctic Policy and Science, member 1991-1992, Polar Research Board, member 1994-1998, Committee on Inland Aquatic Ecosystems, member, 1994- 1996, Water, Science and Technology Board, member, 2000-2003, Committee to Review Climate Change Science Plan, member, 2003-2004, Committee on Salmon and Water Resources in the Columbia Basin, member 2003-2004, Committee on U.S. Army Corps of Engineers Water Resources, Science, Engineering, and Planning, member 2009-2012, Committee on the Value and Sustainability of Biological Field Stations, Marine Laboratories, and Nature Reserves in 21st Century Science, Education, and Public Outreach, member 2013, Committee on the Effects of Diluted Bitumen on the Environment, Chair 2014-2016. Planning Committee on Technology Development to Advance Antarctic Research: A Workshop, Chair, 2021-2022, Committee on Review of Approaches for Managing Pollutant Loads in Highway Stormwater Runoff, Chair, 2023-present.

National Science Foundation: Office of Polar Programs Advisory Committee, member 1993-1996, Advisory Committee for Environmental Research and Education, member 2004-2007.

American Geophysical Union: Chair, AGU Committee on Biogeosciences (1998-2000), Acting President of Biogeosciences Section (2000-2002), Editor (founding), Journal of Geophysical Research-Biogeosciences, 2004-2009, AGU Chapman Conference on Lakes and Climate Change, member of steering committee, 2008-2009, AGU Chapman Conference on Organic Matter Fluorescence, member of steering committee, 2008-2010, Biogeosciences Section, Nominations Committee, Chair, 2012, Maclewane Award

committee, member, 2015-2016, AGU Chapman Conference on Winter Limnology, member of steering committee and guest editor of special section of JGR-Biogeosciences, 2018-2021, guest editor of 20th anniversary special section of JGR-Biogeosciences, 2022-present.

Arctic, Antarctic and Alpine Research: co-editor, 2023-present.

Delta Independent Science Board: Science advisory board for Delta Stewardship Council of the State of California, Member of Board, 2021-present

Long Term Ecological Research Network: Chair, Editorial Committee, Schoolyard Children's Book Series, 2006-2015, Principal Investigator, McMurdo Dry Valleys Long-Term Ecological Research project, 2009-2015, Chair, Task Force to re-envision the LTER Network Office, 2013-2014, Chair, LTER Network-Executive Committee, 2019-2023.

American Society of Limnology and Oceanography: Member of Board, 1992-1994, President-elect: 1995, President 1996-1998, Past-President 1998-2000; Steering committee for workshop on Emerging Issues in Limnology, member 2002-2003.

Freshwater Imperative, steering committee, 1992-1996, NSF supported effort to develop and promote research agenda for limnology.

National Oceanic and Atmospheric Administration: Science Advisory Board, member 1998-2000.

Intergovernmental Panel on Climate Change (IPCC): Working Group 2- Impacts, Vulnerability and Adaptability, group 15- North America, member 1998-2001

US Global Change Research Program: Water Cycle Science Plan committee, member, 1999-2000.

VI. REFERENCES

Journal articles

Matula, E., Korstvedt, R., Takacs-Vesbach, C., Aranda, N., & McKnight, D. 2025. Characterizing the variability of Chlorophyta from McMurdo Dry Valley streams. *Antarctic Science*, 1–17. <https://doi.org/10.1017/S0954102025000203>

Rue, G. P., McKnight, D. M. 2025. Chemical signatures of microbial life in an ecological end-member: Shifting hydroclimate and sediment fluxes influence DOM biogeochemistry in Lake Fryxell, a permanently ice-covered lake in the McMurdo Dry Valleys of Antarctica, *Arctic, Antarctic, and Alpine Research*, 57:1, 2478678, DOI: 10.1080/15230430.2025.2478678

Johnson, K., Jankowski, K. J., Carey, J., Lyon, N. J., McDowell, W. H., Shogren, A., Wymore, A., Sethna, L., Wollheim, W. M., Poste, A. E., Kortelainen, P., Heindel, R., Laudon, H., Raïke, A., Jones, J. B., McKnight D. M., Julian, P., Bush, S. A., Sullivan, P. L. 2024. Establishing fluvial silicon regimes and their stability across the Northern Hemisphere." *LIMNOLOGY AND OCEANOGRAPHY LETTERS*. 9 (3): 237-246. doi: 10.1002/lol2.10372

Magliozzi, L. J.*, Matiassek, S. J., Alpers, C. N., Korak, J. A., McKnight, D., Foster, A. L., Ryan, J. N., Roth, D. A., Ku, P., Tsui, MT-K, et. al. 2024. Wildland-urban interface wildfire increases metal contributions to stormwater runoff in Paradise, California. *ENVIRONMENTAL SCIENCE-PROCESSES & IMPACTS*. 26 (4).

Manning, A. H., Petach, T. N.*, Runkel, R. L., McKnight, D. M. 2024. Climate-Driven Increases in Stream Metal Concentrations in Mineralized Watersheds Throughout the Colorado Rocky Mountains, USA. *WATER RESOURCES RESEARCH*. 60 (4): ARTN e2023WR036062.

Johnson K, Jankowski, K. J., Carey, J. C., Sethna, L. R., Bush, S. A., McKnight D. M., McDowell, W. H., Wymore, A. S., Kortelainen, P., Jones, J. B., Lyon, N. J., Laudon, H., Poste, A. E., Sullivan, P. 2024. Climate, Hydrology, and Nutrients Control the Seasonality of Si Concentrations in Rivers. *JOURNAL OF GEOPHYSICAL RESEARCH-BIOGEOSCIENCES*. 129 (9): doi.org/10. 1029/2024JG008141

Stanish, L. F., Kohler, T. J., Darling, J., McKnight, D. M. 2024. Drifting along: using diatoms to track the contribution of microbial mats to particulate organic matter transport in a glacial meltwater stream in the McMurdo Dry Valleys, Antarctica. *FRONT. MICROBIOL*. 15:1352666. doi: 10.3389/fmicb.2024.1352666

Chin, Y-P., McKnight, D. M., D'Andrilli, J., Brooks, N.*, Cawley, K., Guerard, J., Perdue, E. M., Stedmon, C.A., Tratnyek, P. G., Westerhoff, P., et. al. 2023. Identification of next-generation International Humic Substances Society reference materials for advancing the understanding of the role of natural organic matter in the Anthropocene. *AQUATIC SCIENCES*. 85 (1) /doi.org/10.1007/s00027-022-00923-x.

Egan, J. K.*, McKnight, D. M., Bowman, M. M.*, SanClements, M. D., Gallo, A. C., Hatten, J. A., Matosziuk, L. M. 2023. Identifying photochemical alterations of dissolved pyrogenic organic matter using fluorescence spectroscopy." *AQUATIC SCIENCES*. 85 (2): doi:10.1007/s00027-022-00919-7.

Watson, K. E.*, McKnight, D. M. 2023. Riparian Bird Occupancy in a Mountain Watershed in the Colorado Mineral Belt Appears Resilient to Climate-Change-Driven Increases in Metals and Rare Earth Elements in Water and Aquatic Macroinvertebrates." *DIVERSITY*. 15 (6): doi:10.3390/d15060712

Singley, J. G., Salvatore, M. R., Gooseff, M. N., McKnight, D. M., Hinckley, E-LS. 2023. Differentiating physical and biological storage of N along an intermittent Antarctic stream corridor. *FRESHWATER SCIENCE*. 42 (3): 229-246. doi:10.1086/725676

Kohler, T. J.*, Singley, J. G., Wlostowski, A. N., McKnight, D. M. 2023. Nitrogen fixation facilitates stream microbial mat biomass across the McMurdo Dry Valleys, Antarctica. BIOGEOCHEMISTRY, doi:10.1007/s10533-023-01069-0.

Jankowski, K. J., Johnson, K., Sethna, L., Julian, P., Wymore, A. S., Shogren, A.J., Thomas, P. K., Sullivan, P. L., McKnight, D. M., McDowell, W. H., et. al. 2023. Long-Term Changes in Concentration and Yield of Riverine Dissolved Silicon from the Poles to the Tropics. GLOBAL BIOGEOCHEMICAL CYCLES. 37 (9): doi:10.1029/2022GB007678.

Jones, M. M.*, Runkel, R. L., McKnight, D. M. 2023. To Remediate or Not? Source Identification in an Acid Mine Drainage Stream, Warden Gulch, Colorado." MINE WATER AND THE ENVIRONMENT. 42 (3): 383-398, doi: 10.1007/s10230-023-00948-0

Bush, S. A., Birch, A. L., Warix, S. R., Sullivan, P. L., Gooseff, M. N., McKnight, D. M., Barnard, H. R. 2023. Dominant source areas shift seasonally from longitudinal to lateral contributions in a montane headwater stream. JOURNAL OF HYDROLOGY. 617: ARTN 129134. DOI: 10.1016/j.jhydrol.2023.129134

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Sherwell, S., Kalra, I., Li, W., McKnight, D. M., Priscu, J. C., & Morgan-Kiss, R. M. (2022). Antarctic lake phytoplankton and bacteria from near-surface waters exhibit high sensitivity to climate-driven disturbance. ENVIRONMENTAL MICROBIOLOGY, 16 pages. doi:[10.1111/1462-2920.16113](https://doi.org/10.1111/1462-2920.16113)

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Schulte, N. O.*, Khan, A. L.*, Smith, E. W., Zoumplis, A., Kaul, D., Allen, A. E., . . . McKnight, D. M. (2021). Blowin' in the wind: Dispersal, structure, and metacommunity dynamics of aeolian diatoms in the McMurdo Sound region, Antarctica. JOURNAL OF PHYCOLOGY, 58(1), 36-54. doi:[10.1111/jpy.13223](https://doi.org/10.1111/jpy.13223)

Kohler, T.J.*, Howkins, A., Sokol, E.R, Kopalová, K., Cox, A., Darling, J.P.*, Gooseff, M.N., McKnight, D. M. (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 AND OCEANOGRAPHY LETTERS, 6, 379-387. DOI:10.1002/lol2.10200

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Heindel, R. C., Darling, J. P.*, Singley, J. G., Bergstrom, A. J., McKnight, D. M., Lukkari, B. M., et al. (2021). Diatoms in hyporheic sediments trace organic matter retention and processing in the McMurdo Dry Valleys, Antarctica. JOURNAL OF GEOPHYSICAL RESEARCH: BIOGEOSCIENCES, 126, e2020JG006097. <https://doi.org/10.1029/2020JG006097>

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Straight, B. J.*, Castendyk, D. N., McKnight, D. M., Newman, C. P., Filiatreault, P., & Pino, A. (2021). Using an unmanned aerial vehicle water sampler to gather data in a pit-lake mining environment to assess closure and monitoring. ENVIRONMENTAL MONITORING AND ASSESSMENT, 193(9), 15 pages. doi:[10.1007/s10661-021-09316-3](https://doi.org/10.1007/s10661-021-09316-3)

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Khan, A. L.*, Sokol, E. R., McKnight, D. M., Saunders, J. F., Hohner, A. K., & Summers, R. S. (2021). Phytoplankton Drivers of Dissolved Organic Material Production in Colorado Reservoirs and the Formation of Disinfection By-Products. FRONTIERS IN ENVIRONMENTAL SCIENCE, 9, 13 pages. doi:[10.3389/fenvs.2021.673627](https://doi.org/10.3389/fenvs.2021.673627)

Iwaniec, D. M., Gooseff, M., Suding, K. N., Samuel Johnson, D., Reed, D. C., Peters, D. P. C., . . . Vivoni, E. R. (2021). Connectivity: insights from the US Long Term Ecological Research Network. ECOSPHERE, 12(5), 30 pages. doi:[10.1002/ecs2.3432](https://doi.org/10.1002/ecs2.3432)

Harmon, R. S., Leslie, D. L., Lyons, W. B., Welch, K. A., & McKnight, D. M. (2021). Geochemistry of contrasting stream types, Taylor Valley, Antarctica. GEOLOGICAL SOCIETY OF AMERICA BULLETIN, 133(1-2), 425-448. doi:[10.1130/B35479.1](https://doi.org/10.1130/B35479.1)

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Rue, G. P*, Darling, J. P.*, Graham, E., Tfaily, M. M., & McKnight, D. M. (2020). Dynamic changes in dissolved organic matter composition in a Mountain Lake under ice cover and relationships to changes in nutrient cycling and phytoplankton community composition. *AQUATIC SCIENCES*, 82(1), 16 pages. doi:[10.1007/s00027-019-0687-3](https://doi.org/10.1007/s00027-019-0687-3)

Carini, P.; Delgado-Baquerizo, M; Hinckley, E. S.; Holland-Moritz, H. ; Brewer, T. E.; Rue, G.*; Vanderburgh, C. ; McKnight, D.; Fierer, N. 2020. Effects of Spatial Variability and Relic DNA Removal on the Detection of Temporal Dynamics in Soil Microbial Communities. *MBIO*, Vol: 11, DOI: 10.1128/mBio.02776-19

Sokol, E. R., Barrett, J. E.; Kohler, T. J.; McKnight, D. M.; Salvatore, M. R.; Stanish, L. F. 2020. Evaluating Alternative Metacommunity Hypotheses for Diatoms in the McMurdo Dry Valleys Using Simulations and Remote Sensing Data. *FRONTIERS IN ECOLOGY AND EVOLUTION*, Vol. 8 521668, DOI: 10.3389/fevo.2020.521668.

Khan, A. L.; Rittger, K.; Xian, Peng; Katich, J. M.; Armstrong, R. L.; Kayastha, R. B.; Dana, J. L.; McKnight, D. M. 2020. Biofuel Burning Influences Refractory Black Carbon Concentrations in Seasonal Snow at Lower Elevations of the Dudh Koshi River Basin of Nepal, *FRONTIERS IN EARTH SCIENCE*, Vol. 8, DOI: 10.3389/feart.2020.00371

Hatton, J. E. ; Hendry, K. R.; Hirst, C. ; Opfergelt, S. ; Henkel, S.; Silva-Busso, A. ; Welch, S. A.; Wadham, J. L. ; Lyons, W. B.; Bagshaw, E; Staubwasser, M. ; McKnight, D. M. 2020. Silicon Isotopic Composition of Dry and Wet-Based Glaciers in Antarctica *FRONTIERS IN EARTH SCIENCE*, Vol. DOI: 10.3389/feart.2020.00286.

Hirst, C.; Opfergelt, S.; Gaspard, F.; Hendry, K. R.; Hatton, J. E.; Welch, S.; McKnight, D. M. ; Lyons, W. B. 2020. Silicon Isotopes Reveal a Non-glacial Source of Silicon to Crescent Stream, McMurdo Dry Valleys, Antarctica. *FRONTIERS IN EARTH SCIENCE*, Vol: 8, DOI: 10.3389/feart.2020.00229

Rue, G. P.; Darling, J. P.; Graham, E.; Tfaily, M. M. ; McKnight, D. M. 2020. Dynamic changes in dissolved organic matter composition in a Mountain Lake under ice cover and relationships to changes in nutrient cycling and phytoplankton community composition. *AQUATIC SCIENCES*, Vol: 82, DOI: 10.1007/s00027-019-0687-3.

Carini, P.; Delgado-Baquerizo, M; Hinckley, E. S.; Holland-Moritz, H. ; Brewer, T. E.; Rue, G.; Vanderburgh, C. ; McKnight, D.; Fierer, N. 2020. Effects of Spatial Variability and Relic DNA Removal on the Detection of Temporal Dynamics in Soil Microbial Communities. *MBIO*, Vol: 11, DOI: 10.1128/mBio.02776-19

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Olk, D.C.; Bloom, P. R.; De Nobili. M.; Chen, Y.; McKnight, D. M.; Wells, M. J. M.; Weber, J. 2019. Using Humic Fractions to Understand Natural Organic Matter Processes in Soil and Water: Selected Studies and Applications. JOURNAL OF ENVIRONMENTAL QUALITY. 48 (6): 1633-1643.

Wlostowski, A. N.; Schulte, N. O*; Adams, B. J.; Ball, B. A. Esposito, R. M. M.; Gooseff, M. N.; Lyons, W. B.; Nielsen, U. N.; Virginia, R. A.; Wall, D. H.; Welch, K. A., McKnight, D. M. 2019. The Hydroecology of an Ephemeral Wetland in the McMurdo Dry Valleys, Antarctica. JOURNAL OF GEOPHYSICAL RESEARCH-BIOGEOSCIENCES. 124 (12): 3814-3830.

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and Its Role in Landscape Connectivity in the McMurdo Dry Valleys, Antarctica.
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Aiken, G.R., McKnight, D.M., Wershaw, R.L., and MacCarthy, P., 1985, An introduction to humic substances in soil, sediment, and water, *Humic Substances in Soil, Sediment, and Water*, John Wiley and Sons, Inc., ed., p. 1-9.

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Ranville, J.F., Smith, K.S., McKnight, D.M., Macalady, D.L., and Rees, T.F., 1991, Effect of organic matter coprecipitation and sorption and sorption with hydrous iron oxides on electrophoretic mobility of particles in acid mine drainage, *in* U.S. Geological Survey Toxics Substances Hydrology Program—Proceedings of the technical meeting: U.S. Geological Survey Water-Resources Investigations Report 91-4034.

Harnish, R.A., Ranville, J.F., McKnight, D.M., and Spaulding, S.A., 1991, Redox-Mediated cycling of iron and manganese in Lake Fryxell, Antarctica: Associations with particulate, colloidal, and dissolved forms: U.S. Antarctic Journal, v. 26, no. 5, p. 230-232.

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Bencala, K.E., McKnight, D.M., Zellweger, G.W., and Goad, J., 1986, The stability of rhodamine WT dye in trial studies of solute transport in an acidic and metal-rich stream: U.S. Geological Survey Water Supply Paper 2310.

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McKnight, D.M., Chisholm, S.W., and Morel, F.M.M., 1982, Copper sulfate treatment of lakes and reservoirs: Chemical and Biological Considerations: Ralph M. Parsons Laboratory, Massachusetts Institute of Technology Technical Note No. 24.

McKnight, D.M., Feder, G.L., and Stiles, E.A., 1981, Effects on a blue-green alga of leachates of ash from the May 18 eruption, *in* The 1980 Eruptions of Mount St. Helens, Washington: US Geological Survey Professional Paper 1250.

McKnight, D.M., Feder, G.L., and Stiles, E.A., 1981, Toxicity of Mount St. Helens ash leachate to a blue-green alga: U.S. Geological Survey Circular 850-F.

Morel, F.M.M., Morel, N.M.L., Anderson, D.M., McKnight, D.M., Rueter, J.G., Jr., and F. Sakin, e., 1979, Trace metal speciation and toxicity in phytoplankton cultures, *in* Advances in Marine Environmental Research U.S. Environmental Research: U.S. Environmental Protection Agency EPA-600/9-79-035.

VI. RESEARCH GRANTS AND CONTRACTS

ONR, Humic substances as electron acceptors and electron shuttlers in anaerobic marine sediments, \$140,000 total award, 1996-1998.

NSF, McMurdo Dry Valleys Long term Ecological Research: a cold desert ecosystem, \$125,000/yr for stream hydrology and ecology, and database management, 1997-2005.

NSF, Niwot Ridge Long term Ecological Research, co-investigator, \$25,000/yr for phytoplankton ecology component and \$15,000 for educational outreach supplement, 1998-2005.

NSF-OPP, "The effects of dissolved organic matter on the photolysis and bioaccumulation of organic contaminants in Pony Lake, Cape Royds.", \$11,000, 1997-1998.

EPA "Manganese photochemistry in mountain streams", with D. Hrncir University of Texas as subcontract, \$351,175 total award, 1998-2000.

Trout Unlimited, Summit County, with inkind support from Keystone Resort)- Characterization of stream ecosystems in the Snake River for the Snake River Task Force, \$9000, 1999.

ONR, Electron-accepting capacity of humic substances in marine sediments: chemistry of reactive quinone moieties, \$285,000, 1999-2001.

EPA, Characterization of stream ecosystems in the Snake River for the Snake River Task Force, sub-contract to Keystone Center, \$50,000, 2001-2003.

NSF-EPA, A decision making framework for stream restoration from acid mine drainage, co-PI with Nick Flores (Economics, CCSI), \$60,000, 2002-2004.

NSF-OPP, Collaborative research: Direct and indirect photolytic fate of persistent organic pollutants in arctic surface waters. Co-PI with Yo Chinn, Ohio State University, \$170,000, 2001-2003.

EPA, Influence of climate-induced alterations in dissolved organic carbon on UV radiation and metal toxicity in high elevation streams, co-PI with W. Clements, Colorado State University, \$227,999, 2002-2005.

NSF-OPP, Collaborative Research: Biogeochemistry of Dissolved Organic Matter in Pony Lake, Ross Island. Co-PI with Yo Chin, Penney Miller, Christine Foreman, \$ 284,607, 2004-2007.

NSF, Niwot Ridge Long term Ecological Research, co-investigator, \$25,000/yr for phytoplankton ecology component and \$15,000-\$40,000/yr for educational outreach supplement, 2005-2011.

NSF, McMurdo Dry Valleys Long Term Ecological Research: a cold desert ecosystem, \$60,000/yr for stream hydrology and ecology, 2005-2011.

NSF-DEB, Development of the LTER Schoolyard Book Series, \$78,000, 2007-2008.

NSF-GEO, Collaborative research: Stream-Sediment Bed Exchange of Colloids and Colloid-Associated Metals in Acid Mine Drainage Environments, \$427,628, 2006-2009

NSF-GEO, Collaborative Research: Humics and Iron Redox Reactions in Bangladesh Aquifer, \$388,063, 2008–2011.

NSF-OPP, Collaborative Research: The Biogeochemical Evolution of Dissolved Organic Matter in a Fluvial System on the Cotton Glacier, Antarctica, \$329,535.00, 2009-2011.

NSF-OPP, Collaborative Research: Stream Ecosystem "Harshness" and Microbial, \$452,230.00, 2009-2011.

NSF-OPP, Increased Connectivity in a Polar Desert Resulting from Climate Warming: McMurdo Dry Valley LTER Program, \$ 5,640,000, 2011-2017.

NSF, DEB, Proposal to Support a Task Force for Envisioning the Next Generation Office of the Long-Term Ecological Research Network, \$96,408.00, 2013- 2014

NSF, DEB , Proposal for continued support for the LTER Schoolyard Book Series, \$444,920, 2013-2015.

US Geological Survey, Taxonomic Consistency and Autecology of Algae in Water Quality Assessments, 04/15-09/20, \$ 430,581 Co-PI

Boulder County Open Space, Ecological status of Lagerman Reservoir, 01/20-01/21 \$20,000 Co-PI

City of Boulder Open Space and Mountain Parks, Assessing sources of nutrients contributing to algal blooms in Wonderland Lake, 01/23-04/24, \$10,000 PI

NSF-CBET, Workshop on Next Generation Humic Isolates, 09/20 -08/23, \$50,000

City of Boulder OpenSpace and Mountain Parks, Assessing Hyporheic Processes in the Upper Coal Creek Ecosystem, , 01/23-04/24, \$10,000 PI

NSF-PLR, LTER: Ecosystem response to landscape connectivity dynamics in the McMurdo Dry Valleys, Antarctica, 04/17- 03/23, \$ 6,762,000, manage stream ecology component, Co-PI.

State of Colorado, Purchase Order, Monitoring Coal Creek Watershed for Marshall Fire,
\$198,225.00, co-PI.

VII. GRADUATE STUDENTS ADVISED

(students in italics graduated in ENV5)

Ph. D.

1. Sarah Spaulding (co-adviser with D.Wall) 1997
2. Dev Niyogi (co-advisor with Prof. William Lewis in Environmental, Population and Organismic Biology) 1999
3. Michael Gooseff, 2001
4. Durelle Scott, 2001
5. Natalie Mladenov, 2004
6. Andrew Todd, 2005 (fall)
7. Rose Cory, 2005 (fall)
8. *Anne Hickey*, 2006 (spring)
9. Matt Miller, 2008 (summer)
10. Karen Cozzetto, 2009 (summer)
11. Joshua Koch, 2010 (fall)
12. *Lee Stanish*, 2011 (fall)
13. Kaelin Cawley, 2010 (spring)
14. Sabre Duren, 2013 (fall)
15. *Rachel Gabor*, 2013 (fall)
16. James Duncan Cullis, 2011 (fall)
17. *Tyler Kohler*, 2015 (spring)
18. Alia Khan, 2016 (summer)
19. Alex Mass, 2017 (fall)
20. *Garrett Rue*, 2019 (summer)
21. *Margaret Bowman*, 2020 (summer)
22. Brian Straight, 2020 (summer)
23. *Nicholas Schulte*, 2020 (fall)
24. Tanya Petach, 2022 (spring)
25. Natalie Aranda
26. Lane Allen
27. Lauren Magliozzi, 2024

M. S.

1. Arne Bomblies, 1999
2. Summer Waters, 1999
3. Laura Belanger, 2002
4. Durelle Scott, 2001
5. Alexandra Brown, 2001
6. Lisa Klapper, 2001
7. Eric August, 2001
8. Ethan Chatfield, 2001

9. Erin Van Matre, 2002
10. Matt Miller, 2004
11. Christopher Jaros, 2003
12. Eileen Gardner, 2003
13. Sabre Duren, 2004
14. Marcy Appel, 2004
15. Justin Joslin, 2005
16. Chi Yang, 2005 (spring)
17. Jeffrey Wong, 2006 (spring)
18. *Colleen Flanagan*, 2007 (spring)
19. *Lindsay Weber*, 2008 (spring)
20. *Tisza Bell*, 2009 (fall)
21. *Rachel McLoughlin*, 2009 (spring)
22. *Aimee McLaughlin*, 2009 (fall)
23. Bailey Simone, 2010 (summer)
23. *Caitlin Crouch*, 2011 (summer)
24. Jessica Ebert, 2012 (fall)
25. *Alia Khan*, 2012 (summer)
26. Deena Garland, 2013 (spring)
27. *Travis Drake*, 2014 (summer)
28. *Aneliya Sakaeva*, 2014 (summer)
29. *Ian Bishop*, 2014 (summer)
30. Steven Crisp, 2015 (summer)
31. *Garrett Rue*, 2015 (summer)
32. Jordan Carroll, 2016 (fall)
32. *Matt Olivier*, 2017 (summer)
33. *Meredith Tyree*, 2017 (summer)
34. *Kelley Watson*, 2018 (spring)
35. *Jessica Egan*, 2020 (summer)
36. Matthew Jones, 2019 (fall)
37. *Joshua Darling*, 2021 (summer)
38. Nayoung Hur, 2022 (summer)
39. Sarah (Maggie) Anderson, 2021 (summer)
40. Nicole Brooks, 2022 (fall)
41. Jared Collins, 2023 (fall)
42. Natalie Aranda
43. Alex Greimann
44. *Abby Gordon*
45. Gael Fleurant
46. Athena Bolin
47. Adam Odorisio

VIII. SUMMARY OF COURSES TAUGHT

Natural Organic Material in Water (Spring 1997)
Applied Stream Ecology (regularly, 1997-present)

Surface Water Quality Modeling (1998-1999)
Alpine Ecology and Experiential Learning (summer 1998-2004)
Introduction to Applied Ecology (regularly, spring 2000-present)
Advanced Aquatic Chemistry (spring 2003, Spring 2008)
Environmental Engineering Chemistry (fall 2005, 2008)

IX. UNIVERSITY SERVICE

Departmental Committees:

- CEAE Curriculum Committee (member 1997-1999, 2005-2006)
- CEAE Executive Committee (member 2001-2004, 2022-2023)
- Hydrology search committees, various.
- Chair and member, Environmental Engineering search committees
- ENVS Graduate committee member, 2004-2008.
- INSTAAR, Chair, Isotope biogeochemist search committee (2019)
- INSTAAR, Chair, Aquatic ecologist search committee (2022)

Local committees and public outreach activities:

- Boulder Creek Watershed Initiative, member Board of Directors (1997-2008).
- Snake River Watershed Task Force, member, 1999-2007.

X. PROFESSIONAL SOCIETIES

- Ecological Society of America
- American Society of Limnology and Oceanography
- American Chemical Society
- American Geophysical Union
- International Humic Substances Society
- Phycological Society of America
- Society for Freshwater Science
- Sigma Xi

XII. REVIEWER

Journals:

Ecosystems
Antarctic Science
Archiv of Hydrobiologie
Chemical Geology
Environmental Science and Technology
Geochimica Cosmochimica Acta
Hydrologic Processes
Journal of Arctic, Antarctic and Alpine Research
Journal of Soil Science Society of America
Limnology and Oceanography
Nature

Polar Biology
Water Research
Water Resources Research

Books:

MIT Press

Proposals:

NSF (DEB, Polar Programs, Hydrology)
Dept. of Agriculture
Department of Energy

XIII. CONFERENCES ORGANIZED

Co-chair of symposium “Freshwater Ecosystems and Climate Change in North America”,
co- sponsored by American Society of Limnology and Oceanography and North
American Benthological Society, 1993.

Co-chair of 1988 American Society of Limnology and Oceanography, summer meeting