

Professor Diane M. McKnight

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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-present-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
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

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:

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.

National Research Council: 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 2014-2015.

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.

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.

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

Kulkarni, H. V., Mladenov N., McKnight, D. M., Zheng, Y., Kirk, M. F., Nemergut, D. R. 2018. Dissolved fulvic acids from a high arsenic aquifer shuttle electrons to enhance microbial iron reduction. *Science of the Total Environment*, 615:1390-1395.

McAdams, B. C., Aiken, G. R., McKnight, D. M., Arnold, W. A., Chin, Y-P. 2018. High Pressure Size Exclusion Chromatography (HPSEC) Determination of Dissolved Organic Matter Molecular Weight Revisited: Accounting for Changes in Stationary Phases, Analytical Standards, and Isolation Methods. *Environ. Sci. Technol* 52(2):722-730.

Gooseff, M. N., Barrett, J. .E, Adams, B. J., Doran, P. T., Fountain, A. G., Lyons, W. B., McKnight, D. M., Priscu, J. C., Sokol, E. R., Takacs-Vesbach, C., Vandegehuchte, M. L., Virginia, R. A., Wall, D. H. 2017. Decadal ecosystem response to an anomalous melt season in a polar desert in Antarctica. *Nature Ecology & Evolution* 1(9):1334-1338.

Darling, J.P., Garland, D.D., Stanish, L.F., Esposito, R. M. M., Sokol, E. R., McKnight, D. M. 2017. Thermal autecology describes the occurrence patterns of four benthic diatoms in McMurdo Dry Valley streams. *Polar Biology*. doi.org/10.1007/s00300-017-2151-y.

Rue, G. P., Rock, N. D., Gabor, R. S., Pitlick, J., Tfaily, M., McKnight, D. M. 2017. Concentration-discharge relationships during an extreme event: Contrasting behavior of solutes and changes to chemical quality of dissolved organic material in the Boulder Creek Watershed during the September 2013 flood. *Water Resources Research*. 53:5276-5297, DOI: 10.1002/2016WR019708.

- Kociolek, J. P., Kopalova, K., Hamsher, S. E., Kohler, T. J., Van de Vijver, B., Convey, P., McKnight, D. M. 2017. Freshwater diatom biogeography and the genus *Luticola*: an extreme case of endemism in Antarctica. *Polar Biology*. 40: 1185-1196; DOI 10.1007/s00300-017-2090-7.
- Smith, H. J., Foster, R. A., McKnight, D. M., Lisle, J. T., Littmann, S., Kuypers, M. M. M., Foreman, C. M. 2017. Microbial formation of labile organic carbon in Antarctic glacial environments. *Nature Geoscience*. 10:356, D10.1038/NCEO2925.
- McKnight, Diane M. 2017. Debates: Hypothesis testing in hydrology: A view from the field: The value of hydrologic hypotheses in designing field studies and interpreting the results to advance hydrology. *Water Resources Research*. 53:1779-1783, DOI 10.1002/2016WR020050.
- Khan, A. L., Dierssen, H., Schwarz, J. P., Schmitt, C., Chlus, A., Hermanson, M., Painter, T. H., McKnight, D. M. 2017. Impacts of coal dust from an active mine on the spectral reflectance of Arctic surface snow in Svalbard, Norway. *Journal of Geophysical Research-Atmospheres*. 122:1767- 1778, DOI 10.1002/2016JD025757.
- Sancléments, M.D., Smith, H. J., Foreman, C. M., Tedesco, M., Chin, Y. P., Jaros, C., McKnight, D. M. 2017. Biogeophysical properties of an expansive Antarctic supraglacial stream. *Antarctic Science*. 29:33-44, DOI 10.1017/S0954102016000456.
- Gooseff, MN, Wlostowski, A., McKnight, DM, Jaros, C. 2017. Hydrologic connectivity and implications for ecosystem processes -Lessons from naked watersheds. *Geomorphology*. 277:63-71, DOI,10.1016/j.geomorph.2016.04.024.
- Khan, A. L., Wagner, S., Jaffe, R., Xian, P., Williams, M., Armstrong, R., McKnight, D. M. 2017. Dissolved black carbon in the global cryosphere: Concentrations and chemical signatures. *Geophysical Research Letters*. 44:6226-6234, DOI 10.1002/2017GL073485.
- Sakaeva, A. Sokol, E. R., Kohler, T. J., Stanish, L. F., Spaulding, S. A., Howkins, A., Welch, K. A., Lyons, W. B., Barrett, J. E., McKnight, D. M. 2016. *Polar Biology*. 39:2457-2458, DOI 10.1007/s00300-016-1944-8.
- Miller, M. P., Boyer, E. W., McKnight, D. M. , Brown, M. G., Gabor, R. S., Hunsaker, C. T., Iavorivska, L., Inamdar, S., Johnson, D. W., Kaplan, L. A., Lin, H. , McDowell, W. H., Perdrial. J. N. 2016. Variation of organic matter quantity and quality in streams at Critical Zone Observatory watersheds, *Water Resources Research*, 52, 8202–8216, doi:10.1002/2016WR018970.
- Burns, M. A., Barnard, H. R., Gabor, R. S., McKnight, D. M., Brooks, P. D. 2016. Dissolved organic matter transport reflects hillslope to stream connectivity during snowmelt in a montane catchment, *Water Resources Research*, 52, 4905–4923, doi:10.1002/2015WR017878.

- Wlostowski, A. N., Gooseff, M. N., McKnight, D. M., Jaros, C., Lyons, W. B. 2016. Patterns of hydrologic connectivity in the McMurdo Dry Valleys, Antarctica: a synthesis of 20 years of hydrologic data. *Hydrologic Processes*, 30: 2958–2975. doi: 10.1002/hyp.10818.
- Herbei, R., Rytel, A. L., Lyons, W. B., McKnight, D. M., Jaros, C., Gooseff, M. N., Priscu, J. C. 2016. Hydrological Controls on Ecosystem Dynamics in Lake Fryxell, Antarctica. *PLOS ONE* <http://dx.doi.org/10.1371/journal.pone.0159038>
- Van Horn, D. J., Wolf, C. R., Colman, D. R., Jiang, X., Kohler, T. J., McKnight, D. M., Stanish, L. F., Yazzie, T., Takacs-Vesbach, C. D. 2016. Patterns of bacterial biodiversity in the glacial meltwater streams of the McMurdo Dry Valleys, Antarctica. *FEMS Microbiology Ecology*. DOI: <http://dx.doi.org/10.1093/femsec/fiw148>.
- Preston, D. L., Caine, N., McKnight, D. M., Williams, M. W., Hell, K., Miller, M. P., Hart, S. J., Johnson, P. T. J. 2016. Climate regulates alpine lake ice cover phenology and aquatic ecosystem structure. *Geophysical Research Letters*. 43:5553-5560. DOI: 10.1002/2016GL069036.
- Khan, A. L., Jaffe, R., Ding, Y., McKnight, D. M. 2016. Dissolved black carbon in Antarctic lakes: chemical signatures of past and present sources. *Geophysical Research Letters*. 43:5750-5757. DOI: 10.1002/2016GL068609.
- Cawley, K. M., Murray, A. E., Doran, P. T., Kenig, F., Stubbins, A., Chen, H. M., Hatcher, P. G., McKnight, D. M. 2016. Characterization of dissolved organic material in the interstitial brine of Lake Vida, Antarctica. *Geochimica et Cosmochimica Acta*. 183:63-78. DOI: 10.1016/j.gca.2016.03.023.
- Kohler, T. J., Van Horn, D., Darling, J. P., Takacs-Vesbach, C. D., McKnight, D. M. 2016. Nutrient treatments alter microbial mat colonization in two glacial meltwater streams for the McMurdo Dry Valleys, Antarctica. *FEMS Microbiology Ecology*. 92:fiw049. DOI: 10.1093/femsec/fiw049
- Gooseff, M.N., Van Horn, D., Sudman, Z., McKnight, D.M., Welch, K. A., Lyons, W. B. 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.
- Castendyk, D., McKnight, D. M., Welch, K., Niebuhr, S., Jaros, C. 2015. Pressure-driven, shoreline currents in a perennially ice-covered, pro-glacial lake in Antarctica, identified from a LiCl tracer injected into a pro-glacial stream. *Hydrological Processes* 29(9):2212-2231.
- Gabor, R. S., Burns, M. A., Lee, R. H., Elg, J. B., Kemper, C. J., Barnard, H. R., McKnight, D. M. 2015. Influence of Leaching Solution and Catchment Location on the Fluorescence of Water-Soluble Organic Matter. *Environmental Science & Technology* 49(7):4425-4432.

Kohler, T. J., Stanish, L. F., Crisp, S. W., Koch, J. C., Liptzin, D., Baeseman, J. L., McKnight, D. M. 2015. Life in the Main Channel: Long-Term Hydrologic Control of Microbial Mat Abundance in McMurdo Dry Valley Streams, Antarctica. *Ecosystems* 18(2):310-327.

Drake, T. W., Wickland, K. P., Spencer, R. G. M., McKnight, D. M., Striegl, R. G. 2015. Ancient low-molecular-weight organic acids in permafrost fuel rapid carbon dioxide production upon thaw. *Proceedings of the National Academy of Sciences of The United States of America* 112(45):13946-13951.

Lyons, W. B., Dailey, K. R., Welch, K. A., Deuerling, K. M., Welch, S.A., McKnight D. M. 2015. Antarctic streams as a potential source of iron for the Southern Ocean. *Geology* 43(11):1003-1006.

Mladenov, N., Zheng, Y., Simone, B., Bilinski, T. M., McKnight, D. M., Nemergut, D., Radloff, K. A., Rahman, M. M., Ahmed, K. M. 2015. Dissolved Organic Matter Quality in a Shallow Aquifer of Bangladesh: Implications for Arsenic Mobility. *Environmental Science & Technology* 49(18):10815-10824.

Miller, M. P. and D. M. McKnight. 2015. Limnology of the Green Lakes Valley: phytoplankton ecology and dissolved organic matter biogeochemistry at a long-term ecological research site, *Plant Ecology & Diversity*, 8:5-6, 689-702, DOI: 10.1080/17550874.2012.738255.

Bowman, W.D., D. R. Nemergut, D. M. McKnight, M. P. Miller and M. W. Williams. 2015. A slide down a slippery slope – alpine ecosystem responses to nitrogen deposition, *Plant Ecology & Diversity*, 8:5-6, 727-738, DOI: 10.1080/17550874.2014.984786.

Williams, M. W., T. R. Seastedt, W. D. Bowman, D. M. McKnight, K. N. Suding. 2015. An overview of research from a high elevation landscape: the Niwot Ridge, Colorado Long Term Ecological Research programme, *Plant Ecology & Diversity*, 8:5-6, 597-605, DOI: 10.1080/17550874.2015.1123320

McKnight, D. M., Cozzetto, K., Cullis, J. D. S., Gooseff, M. N., Jaros, C., Koch, J. C., Lyons, W. B., Neupauer, R., Wlostowski, A. 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 streams. *Water Resources Research* 51(8):6725-6738.

Kohler, T. J., Chatfield, E., Gooseff, M. N., Barrett, J. E., McKnight, D. M. 2015. Recovery of Antarctic stream epilithon from simulated scouring events. *Antarctic Science* 27(4):341-354.

Creed, I. F., McKnight, D. M., Pellerin, B. A., Green, M. B., Bergamaschi, B. A., Aiken, G. R., Burns, D. A., Findlay, S. E. G., Shanley, J. B., Striegl, R. G. 2015. The river as a

chemostat: fresh perspectives on dissolved organic matter flowing down the river continuum. *Canadian Journal of Fisheries and Aquatic Sciences* 72(8):1272-1285.

Cullis, J. D. S., McKnight, D. M., Spaulding, S. A. 2015. Hydrodynamic control of benthic mats of *Didymosphenia geminata* at the reach scale. *Canadian Journal of Fisheries and Aquatic Sciences* 72(6):902-914.

Ray, C., D.M. McKnight, M.D. Bidwell, T. Fourment, C. Flanagan Pritz, Rinehart, A.H. 2015. Children's book series and associated curricula support elementary education and outreach in water resources, *Plant Ecology & Diversity*, DOI: 10.1080/17550874.2015.1050711

Smith, Kathleen S., J.F. Ranville, E.K. Lesher, D.J. Diedrich, D. M. McKnight, R.M. Sofield. 2014. Fractionation of Fulvic Acid by Iron and Aluminum Oxides-Influence on Copper Toxicity to *Ceriodaphnia dubia*. *Environmental Science & Technology*. 48: 11934-11943, DOI: 10.1021/es502243m.

Cullis, J. D. S., L. F. Stanish, D.M. McKnight. 2014. Diel flow pulses drive particulate organic matter transport from microbial mats in a glacial meltwater stream in the McMurdo Dry Valleys. *Water Resources Research*, 50: 86-97, DOI: 10.1002/2013WR014061

Gabor, R. S., K. Eilers, D. M. McKnight, N. Fierer, S. P. Anderson. 2014. From the litter layer to the saprolite: Chemical changes in water-soluble soil organic matter and their correlation to microbial community composition. *Soil Biology and Biochemistry*, 68:166-176.

Mladenov, N; Wolski, P., Hettiarachchi, G. M., Murray-Hudson, M., Enriquez, H., Damaraju, S., Galkaduwa, M. B., McKnight, D. M., Masamba, W. 2014. Abiotic and biotic factors influencing the mobility of arsenic in groundwater of a through-flow island in the Okavango Delta, Botswana. *Journal of Hydrology* 518:326-341, DOI: 10.1016/j.jhydrol.2013.09.026

Cozzetto, K. D., K. E. Bencala, M. N. Gooseff, D. M. 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.

Cullis, J.D.S., J. P. Crimaldi, and D. M. McKnight. 2013. Hydrodynamic shear removal of the nuisance stalk-forming diatom *Didymosphenia geminata*. *Limnology & Oceanography: Fluids & Environments* 3: 256-268.

D'Andrilli, J., C. M. Foreman, A. G. Marshall, D. M. McKnight. 2013. Characterization of IHSS Pony Lake fulvic acid dissolved organic matter by electrospray ionization Fourier transform ion cyclotron resonance mass spectrometry and fluorescence spectroscopy. *Organic Geochemistry* 65 (2013) 19–28.

- Stanish, L. F., E. A. Bagshaw, D. M. McKnight, A. G. Fountain, M. Tranter. 2013. Environmental factors influencing diatom communities in Antarctic cryoconite holes. *Environ. Res. Lett.* 8 (2013) 045006, doi:10.1088/1748-9326/8/4/045006.
- Cawley, K. C., D. M. McKnight, P. Miller, R. M. Cory, R. L. Fimmen, J. Guerard, M. Dieser, C. Jaros, Y. Chin, C. M. Foreman. 2013. Characterization of fulvic acid fractions of dissolved organic matter during ice-out in a hyper-eutrophic, coastal pond in Antarctica. *Environ. Res. Lett.* 8 (2013) 045015, doi:10.1088/1748-9326/8/4/045015.
- Dieser, M., C. M. Foreman, C. Jaros, , J. T. Lisle, M. Greenwood, J. Laybourn-Parry, P. L. Miller, Y. Chin, D.M. McKnight. 2013. Physicochemical and biological dynamics in a coastal Antarctic lake as it transitions from frozen to open water. *Antarctic Science*, 25(5): 663-675.
- Foreman, C. M.; Cory, R. M.; Morris, C. E.; SanClements, M. D.; Smith, H. J.; Lisle, J. T.; Miller, P. L.; Chin, Y.; McKnight, D. M.. 2013. Microbial growth under humic-free conditions in a supraglacial stream system on the Cotton Glacier, Antarctica. *Environmental Research Letters*, 8: 3 Article Number: 035022.
- Koch, J. C., R. L. Runkel, R. Striegl, D.M. McKnight. 2013. Hydrologic controls on the transport and cycling of carbon and nitrogen in a boreal catchment underlain by continuous permafrost. *Journal of Geophysical Research-Biogeosciences*. 118(2): 698-712.
- Cawley, K. M., V. Koerfer, D. M. McKnight. 2013. The role of dissolved organic matter (DOM) quality in the growth enhancement of *Alexandrium fundyense* (Dinophyceae) in laboratory culture. *Journal of Phycology* 49:546-554, DOI: 10.1111/jpy.12063.
- Lyons, W. B., D. L. Leslie, R. S. Harmon, K. Neumann, K. A. Welch, K. Bisson, D. M. McKnight. 2013. The carbon stable isotope biogeochemistry of streams, Taylor Valley, Antarctica. *Applied Geochemistry* 32: 26-36, DOI: 10.1016/j.apgeochem.2012.08.019
- Beggs, K. M. H., J. A. Billica, J. A. Korak, F. L. Rosario-Ortiz, D. M. McKnight, R.S. Summers. 2013. Spectral evaluation of watershed DOM and DBP precursors. *Journal American Water Works Association* 105: 49-50, DOI: 10.5942/jawwa.2013.105.0063
- Crouch, C. M., D. M. McKnight, A. S. Todd. 2013. Quantifying sources of increasing zinc from acid rock drainage in an alpine catchment under a changing hydrologic regime. *Hydrological Processes*, 27(5):721-733, DOI: 10.1002/hyp.9650.
- Koch, J. C., S.A. Ewing, R. Striegl, D. M. McKnight. 2013. Rapid runoff via shallow throughflow and deeper preferential flow in a boreal catchment underlain by frozen silt (Alaska, USA) *Hydrogeology Journal*. 21(1)93-106, DOI: 10.1007/s10040-012-0934-3.
- Murray, A. E, Kenig, F, Fritsen, C.H., McKay, C.P., Cawley, K.M. ,Edwards, R., Kuhn, E., McKnight, D.M., Ostrom, N.E., Peng, V., Ponce, A., Priscu, J.C., Samarkin, V.

Townsend, A.T., Wagh, P., Young, S.A., Yung, P.T., Doran, P.T. 2012. Microbial life at -13 degrees C in the brine of an ice-sealed Antarctic lake. *Proceedings of the National Academy of Sciences* 109 (50): 20626-20631, DOI: 10.1073/pnas.1208607109.

Stanish, L. F., O'Neill, S. P., Gonzalez, A., Legg, T. M., Knelman, J., McKnight, D. M., Spaulding, S., Nemergut, D. R. 2013. Bacteria and diatom co-occurrence patterns in microbial mats from polar desert streams. *Environmental Microbiology*. 15(4):1115–1131, DOI: 10.1111/j.1462-2920.2012.02872.x

Todd, A. S.; Manning, A. H.; Verplanck, P. L. Crouch, C., McKnight, D. M.; Dunham, R., 2012. Climate-Change-Driven Deterioration of Water Quality in a Mineralized Watershed. *Environmental Science & Technology*, 46: 9324-9332, DOI: 10.1021/es3020056.

Stanish, L. F., T. J. Kohler, R. M. M. Esposito, B. L. Simmons, U. N. Nielsen, D. H. Wall, D. R. Nemergut, D. M. McKnight. 2012. Extreme streams: flow intermittency as a control on diatom communities in meltwater streams in the McMurdo Dry Valleys, Antarctica. *Canadian Journal of Fisheries and Aquatic Sciences*. 69: 1405-1419, DOI: 10.1139/F2012-022.

Cawley, K. M., Butler, K. D., Aiken, G. R., Larsen, L. G., Huntington, T. G., McKnight, D. M., 2012. Identifying fluorescent pulp mill effluent in the Gulf of Maine and its watershed. *Marine Pollution Bulletin*, 64:1678-1687, DOI:10.1016/j.marpolbul.2012.05.040

Miller, M. P. and D. M. McKnight (2015) Limnology of the Green Lakes Valley: phytoplankton ecology and dissolved organic matter biogeochemistry at a long-term ecological research site, *Plant Ecology & Diversity*, 8:5-6, 689-702, DOI: 10.1080/17550874.2012.738255.

Spaulding, S. A., Jewson, D. H., Bixby, R. J.; Nelson, H., McKnight, D. M.. Automated measurement of diatom size. *Limnology and Oceanography-Methods*, 10: 882-890, DOI: 10.4319/lom.2012.10.882.

Nielsen, U. N., D. H. Wall, B. J. Adams, R. A. Virginia, B. A. Ball, M. N. Gooseff, D. M. McKnight. 2012. The ecology of pulse events: insights from an extreme climatic event in a polar desert ecosystem. *Ecosphere*. 3(2) pp. art17 doi: <http://dx.doi.org/10.1890/ES11-00325.1>

SanClements, M. D., Oelsner, G. P., McKnight, D. M., Stoddard, J. L., Nelson. S. J. 2012. New insights into the source of decadal increases of dissolved organic matter in acid-sensitive lakes of the Northeastern United States. *Environmental Science & Technology*. doi.org/10.1021/es204321x.

Grannas, A. M., Cory, R. M., Miller, P. L., Chin, Y., McKnight, D.M.. 2012. The role of dissolved organic matter in arctic surface waters in the photolysis of hexachlorobenzene and lindane. *Journal of Geophysical Research*, 117, G01003, doi:10.1029/2010JG001518.

Fang, X. W., Mao, J. D., Cory, R. M., McKnight, D. M., Schmidt-Rohr, K. 2011. ^{15}N and $^{13}\text{C}\{^{14}\text{N}\}$ NMR investigation of the major nitrogen-containing segment in an aquatic fulvic acid: Evidence for a hydantoin derivative. *Magnetic Resonance in Chemistry*. 49: 775-780, DOI: 10.1002/mrc.2816.

Stanish, L. F., Nemergut D. R., McKnight, D. M. 2011. Hydrologic processes influence diatom community composition in Dry Valley streams. *Journal of the North American Benthological Society*. 30: 1057-1073, DOI: 10.1899/11-008.1

Koch, J. C., McKnight, D.M., Neupauer, R.M. 2011. Simulating unsteady flow, anabranching, and hyporheic dynamics in a glacial meltwater stream using a coupled surface water routing and groundwater flow model. *Water Resources Research*, 47, Article Number: W05530, DOI: 10.1029/2010WR009508.

Foreman, C. M., Diesler, M., Greenwood, M., Cory, R. M., Laybourn-Parry, J., Lisle, J. T., Jaros, C., Miller, P. L., Chin, Y.; McKnight, D. M.. 2011. When a habitat freezes solid: microorganisms over-winter within the ice column of a coastal Antarctic lake. *FEMS Microbiology Ecology*. 76(3): 401-412, DOI: 10.1111/j.1574-6941.2011.01061.x

Welch, K. A., W. B. Lyons, C. Whisner, C. B. Gardner, M. N. Gooseff, D. M. McKnight and J. C. Priscu. 2010. Spatial variations in the geochemistry of glacial meltwater streams in the Taylor Valley, Antarctica. *Antarctic Science*, 22 (6): 662-672 Sp. Iss.

Deppe, M., K. H. Knorr, D. M. McKnight and C. Blodau. 2010. Effects of short-term drying and irrigation on CO₂ and CH₄ production and emission from mesocosms of a northern bog and an alpine fen. *Biogeochemistry*, 100 (1-3): 89-103.

Pace, M. L., S. E. Hampton, K. E. Limburg, E. M. Bennett, E. M. Cook, A. E. Davis, J. M. Grove, K. Y. Kaneshiro, S. L. LaDeau, G. E. Likens, D. M. McKnight and D. L. Strayer. 2010. Communicating with the public: opportunities and rewards for individual ecologists. *Frontiers in Ecology and the Environment*, 8(6): 292-298.

McKnight, D. M. 2010. Overcoming "ecophobia": fostering environmental empathy through narrative in children's science literature. *Frontiers in Ecology and the Environment*, 8(6): E10-E15.

Miller, M. P., B. E. Simone, D. M. McKnight, R. M. Cory, M. W. Williams and E. W. Boyer. 2010. New light on a dark subject: comment. *Aquatic Sciences*, 72 (3): 269-275.

Herbei, R., W. B. Lyons, J. Laybourn-Parry, C. Gardner, J. C. Priscu and D. M. McKnight. 2010. Physiochemical properties influencing biomass abundance and primary production in Lake Hoare, Antarctica. *Ecological Modeling*, 221 (8): 1184-1193.

Miller, M. P. and D. M. McKnight. 2010. Comparison of seasonal changes in fluorescent dissolved organic matter among aquatic lake and stream sites in the Green Lakes Valley. *Journal of Geophysical Research-Biogeosciences*, 115: Art. No. G00F12.

Deppe, M., D. M. McKnight and C. Blodau. 2010. Effects of Short-Term Drying and Irrigation on Electron Flow in Mesocosms of a Northern Bog and an Alpine Fen *Environmental Science & Technology*, 44 (1): 80-86.

Cory, R. M., M. P. Miller, D. M. McKnight, J. Guerard, P. L. Miller. 2010. Effect of instrument-specific response on the analysis of fulvic acid fluorescence spectra. *Limnol. Oceanogr.: Methods* 8: 67-78.

Koch, J. C., D. M. McKnight, and J. L. Baeseman. 2010. Effect of unsteady flow on nitrate loss in an oligotrophic, glacial meltwater stream. *Journal of Geophysical Research-Biogeosciences* 115, G1, doi:10.1029/2009JG001030.

Beggs, K. M. H., R. S. Summers and D.M. McKnight. 2009. Characterizing chlorine oxidation of dissolved organic matter and disinfection by-product formation with fluorescence spectroscopy and parallel factor analysis. *J. Geophys. Res. Biogeosci.* 114, doi: G04001.

Mladenov, N., Y. Zheng, M. P. Miller, D. R. Nemergut, T. Legg, B. Simone, C. Hageman, M. M. Rahman, K. M. Ahmed and D. M. McKnight. 2009. Dissolved Organic Matter Sources and Consequences for Iron and Arsenic Mobilization in Bangladesh Aquifers. *Environ. Sci. Technol.* pp 123-128, DOI: 10.1021/es901472g

Miller, M. P., D. M. McKnight, S. C. Chapra and M.W. Williams. 2009. A model of degradation and production of three pools of dissolved organic matter in an alpine lake. *Limnol. Oceanogr.* 54:2213-2227.

Mladenov, N., J. López-Ramos, D. M. McKnight, and I. Reche. 2009. Alpine lake optical properties as sentinels of dust deposition and global change. *Limnol. Oceanogr.*, 54(6, part 2), 2009, 2386–2400.

Tranvik, L. J., J. A. Downing, J. B. Cotner, S. A. Loiselle, R. G. Striegl, T. J. Ballatore, P. Dillon, K. Finlay, K. Fortino, L. B. Knoll, P. L. Kortelainen, T. Kutser, S. Larsen, I. Laurion, D. M. Leech, S. L. McCallister, D. M. McKnight, J. M. Melack, E. Overholt, J. A. Porter, Y. Prairie, W. H. Renwick, F. Roland, B. S. Sherman, D. W. Schindler, S. Sobek, A. Tremblay, M. J. Vanni, A. M. Verschoor, E. von Wachenfeldt, and G. A. Weyhenmeyer. 2009. Lakes and reservoirs as regulators of carbon cycling and climate. *Limnol. Oceanogr.*, 54(6, part 2), 2009, 2298–2314.

Miller, M. P., D. M. McKnight, and S. C. Chapra. Production of microbially-derived fulvic acid from photolysis of quinone-containing extracellular products of phytoplankton. 2009. *Aquatic Sciences* 71: 170-178.

Flanagan, C., McKnight, D. M., Liptzin, D., Williams, M., Miller, M.P. 2009. Response of the Phytoplankton Community in an Alpine Lake to Drought Conditions: Colorado Rocky Mountain Front Range, U.S.A. *Arctic Antarctic, Alpine Res.* 41: 191-203.

- Miller, M. P., McKnight, D. M., Cullis, J. D., Greene, A., Vietti, K., Liptzin, D., 2009. Factors controlling streambed coverage of *Didymosphenia geminata* in two regulated streams in the Colorado Front Range. *Hydrobiol.* 630:207-218.
- Esposito, R.M. M., Spaulding, S. A., McKnight, D. M., de Vijver, B.V., Kopalova, K., Lubinski, D., Hall, B., and Whittaker, T. 2008. Inland diatoms from the McMurdo Dry Valleys and James Ross Island, Antarctica. *Botany* 86: 1378-1392.
- Jaffe R, McKnight D, Maie N, Cory, R., McDowell, W. H., Campbell, J. L. 2008. Spatial and temporal variations in DOM composition in ecosystems: The importance of long-term monitoring of optical properties. *Journal of Geophysical Research-Biogeosciences* 113 G4 G04032 .
- Doran, P. T., McKay, C. P., Fountain, A. G., Nylen, T., McKnight, D. M., Jaros, C., Barrett, J. E. 2008. Hydrologic response to extreme warm and cold summers in the McMurdo Dry Valleys, East Antarctica. *Antarctic Science* 20(5):499-509
- Mladenov, N., Huntsman-Mapila, P., Wolski, P., Masarnba, W. R. L., and McKnight, D. M. 2008. Dissolved organic matter accumulation, reactivity, and redox state in ground water of a recharge wetland. *Wetlands*, 28 (3):747-759
- Gardner, E.M., McKnight, D.M., Lewis W. M., and Miller M.P. 2008. Effects of nutrient enrichment on phytoplankton in an alpine lake, Colorado, USA. *Arctic Antarctic and Alpine Research*, 40(1): 55-64.
- Mladenov N., McKnight D. M., Macko S.A., Norris M., Cory, and R.M., Ramberg, L . 2007. Chemical characterization of DOM in channels of a seasonal wetland. *Aquatic Sciences*, 69 (4): 456-471.
- Mao J.D., Cory R. M., McKnight, D. M., and Schmidt-Rohr, K. 2007. Characterization of a nitrogen-rich fulvic acid and its precursor algae from solid state NMR Organic Geochemistry, 38 (8): 1277-1292.
- Cory, R. M., D. M. McKnight, Y. Chin, P. Miller and C. L. Jaros. 2007. Chemical characteristics of fulvic acids from Arctic surface waters: microbial contributions and photochemical transformations. *J. Geophys. Res. Biogeosci.* 112: G04S51.
- McKnight, D. M., C.M. Tate, E.D. Andrews, D.K. Niyogi, K. Cozzetto, K. Welch, W.B. Lyons and D.G. Capone. 2007. Reactivation of a cryptobiotic stream ecosystem in the McMurdo Dry Valleys, Antarctica- a long-term geomorphological experiment. *Geomorphology* 89:186-204.
- Fimmen, R. L., R. M. Cory, Y. P. Chin, T. D. Trouts and D. M. McKnight. 2007. Probing the oxidation-reduction properties of terrestrially and microbially derived dissolved organic matter. *Geochim. Cosmochim. Acta.* 71: 3003-3015.

Bade, D. L., S. R. Carpenter, J. J. Cole, M. L. Pace, E. Kritzberg, M. C. Van de Bogert, R. M. Cory and D. M. McKnight. 2007. Sources and fates of dissolved organic carbon in lakes as determined by whole-lake carbon isotope additions. *Biogeochem.* 84: 115-129.

Brooks, M.L., D. M. McKnight and W. H. Clements, 2007. Photochemical control of copper complexation by dissolved organic matter in Rocky Mountain streams, Colorado. *Limnol. Oceanogr.* 52: 766-779.

Barrett, J. E., R. A. Virginia, W. B. Lyons, D. M. McKnight, J. C. Priscu, P. T. Doran, A. G. Fountain, D. H. Wall and D. L. Moorhead, 2007. Biogeochemical stoichiometry of Antarctic Dry Valley ecosystems. *J. Geophys. Res. Biogeosci.* 112, doi:G01010

Brooks, M. L., J. S. Meyer and D. M. McKnight, 2007. Photooxidation of wetland and riverine dissolved organic matter: altered copper complexation and organic composition. *Hydrobiol.* 579: 95-113.

Todd, A. S, D. M. McKnight, C. L. Jaros, and T. M. Marchitto, 2006. Effects of Acid Rock Drainage on Stocked Rainbow Trout (*Oncorhynchus mykiss*): An In-Situ, Caged Fish Experiment. *Environ. Monit. & Assess.* doi:10.1007/s10661-006-9382-7.

Esposito, R. M. M., S. L. Horn, D. M. McKnight, M. J. Cox, M. C. Grant, S. A. Spaulding, P. T. Doran, and K. D. Cozzetto. 2006. Antarctic climate cooling and response of diatoms in glacial meltwater streams. *Geophys. Res. Lett.*, 33, LXXXXX, doi:10.1029/2006GL025903.

Cozzetto, K., D. M. McKnight, T. Nylen and A. G. Fountain. 2006. Experimental investigations into processes controlling stream and hyporheic temperatures, Fryxell Basin, Antarctica. *Adv. Water Resour.* 29 (2): 117-382.

Miller, M. P., D. M. McKnight, R. M. Cory and M. W. Williams. 2006. Hyporheic exchange and fulvic acid redox reactions in an alpine stream/wetland ecosystem, Colorado Front Range. *Environ. Sci. & Technol.*, 40 (19): 5943-5949

Conovitz, P.A., L. H. MacDonald and D. M. McKnight. 2006. Spatial and temporal active layer dynamics along three glacial meltwater Streams in the McMurdo Dry Valleys, Antarctica, Arctic, Antarctic & Alpine Res., 38 (1): 42-53.

Gooseff, M. N., W. B Lyons, D. M McKnight, B. H. Vaughn, A.G. Fountain and C. Dowling. 2006. A stable isotopic investigation of a polar desert hydrologic system, McMurdo Dry Valleys, Antarctica. *Arctic, Antarctic & Alpine Res.*, 38(1): 60-71.

Ebnet, A. F., A. G. Fountain, T. H. Nylen, D. M. McKnight and C. L. Jaros. A temperature-index model of stream flow at below-freezing temperatures in Taylor Valley, Antarctica. *Ann. Glaciol.* 40: 76-82 2005

Gooseff, M. N., Bencala, K. E, Scott, D. T, Runkel, R. L, McKnight, D. M. 2005. Sensitivity analysis of conservative and reactive stream transient storage models applied to field data from multiple-reach experiments. *Adv. Water Resour.*, 28 (5): 479-492.

Cory, R. M, McKnight, D. M. 2005. Fluorescence spectroscopy reveals ubiquitous presence of oxidized and reduced quinones in dissolved organic matter. *Environmental Science & Technology*, 39 (21): 8142-8149.

Mladenov, N, McKnight, D. M; Wolski, P; Ramberg, L. 2005. Effects of annual flooding on dissolved organic carbon dynamics within a pristine wetland, the Okavango Delta, Botswana. *Wetlands*, 25 (3): 622-638.

Hood, E., Williams, M. W. and McKnight, D. M. 2005. Sources of dissolved organic matter (DOM) in a Rocky Mountain stream using chemical fractionation and stable isotopes. *Biogeochem.* 74 (2): 231-255

Brooks, P. D., McKnight, D., Elder, K. 2005. Carbon limitation of soil respiration under winter snowpacks: potential feedbacks between growing season and winter carbon fluxes *Global Change Biol.* 11 (2): 231-238.

Doran, P.T., Priscu, J. C., Lyons, W. B, Walsh, J. E, Fountain, A. G., McKnight, D. M., Moorhead, D. L., Virginia, R.A., Wall, D. H., Clow, G. D., Fritsen, C. H., McKay, C. P., Parsons, A. N., 2005. Comment on "El Nino suppresses Antarctic warming" by N. Bertler et al. *Geophys. Res.Lett.* 32 (7): Art. No. L07706.

Brown, A., McKnight, D. M., Chin, Y. P., Roberts, E. C., Uhle, M. 2004. Chemical characterization of dissolved organic material in Pony Lake, a saline coastal pond in Antarctica. *Marine Chem.* 89 (1-4): 327-337.

Gooseff, M. N., McKnight, D.M., Runkel, R.L., Duff, J. H. 2004. Denitrification and hydrologic transient storage in a glacial meltwater stream, McMurdo Dry Valleys, Antarctica. *Limnol. Oceanogr.* 49: 1884-1895.

Gooseff, M. N., D. M. McKnight and R. L. Runkel. 2004. Reach-scale cation exchange controls on major ion chemistry of an Antarctic glacial meltwater stream. *Aquat. Geochem.*, 10 (3-4): 221-238

McKnight, D. M. and S. Duren. 2004. Biogeochemical processes controlling midday ferrous iron maxima in stream waters affected by acid rock drainage. *Appl. Geochem.* 19: 1075-1084.

Keefe, S. H., Barber, L.,B., Runkel, R.,L., Ryan, J. N., McKnight, D. M., Wass,R. D., 2004. Conservative and reactive solute transport in constructed wetlands *Water Resour. Res.*, 40 (1): Art. No. W01201

McKnight, D. M., R. L. Runkel, C. M. Tate, J. H. Duff, and D. L. Moorhead. 2004. Inorganic N and P dynamics of Antarctic glacial meltwater streams as controlled by

hyporheic exchange and benthic autotrophic communities. *J. North Amer. Benthol. Soc.* 23: 171–188.

Scott, D. T., R. L. Runkel, D. M. McKnight, B. M. Voelker, B. A. Kimball and E. R. Carraway. 2003. Transport and cycling of iron and hydrogen peroxide in a freshwater stream: Influence of organic acids. *Water Resour. Res.* 39 (11): Art. No. 1308

Fulton, J.R., D. M. McKnight, C. M. Foreman, R. M. Cory, C. Stedmon and E. Blunt. 2004. Changes in fulvic acid redox state through the oxycline of a permanently ice-covered Antarctic lake. *Aquat. Sci.* 66:27-46.

Hood, E., D. M. McKnight and M. W. Williams. 2003. Sources and chemical character of dissolved organic carbon across an alpine/subalpine ecotone, Green Lakes Valley, Colorado Front Range, United States. *Water Resour. Res.* 39 (7): Art. No. 1188.

Gooseff, M.N., D.M. McKnight, W.B. Lyons, and A. E. Blum. 2002. Weathering reactions and hyporheic exchange controls on streamwater chemistry in a glacial meltwater stream in the McMurdo Dry Valleys. *Water Resour. Res.* 38: 1279.

Niyogi, D.K., D.M. McKnight, and W. M. Lewis. 2002. Effects of mine drainage on breakdown of aspen litter in mountain streams. *Water Air & Soil Pollut. Focus* 2: 329-341.

Kolesar, S.E., D. M. McKnight, and S. B. Waters. 2002. Late fall phytoplankton dynamics in three lakes, Rocky Mountain National Park. *Hydrobiol.* 472:249-263.

Niyogi, D.K., W. M. Lewis, and D.M. McKnight. 2002. Effects of stress from mine drainage on diversity, biomass, and function of primary producers in mountain streams. *Ecosystems.* 5:554-567.

Niyogi, D.K., D.M. McKnight, and W. M. Lewis. 2002. Fungal communities and biomass in mountain streams affected by mine drainage. *Archiv. Hydrobiol.* 155:255-271.

McKnight, D.M., Hornberger, G.M., Bencala, K.E., Boyer, E.W. 2002. In-stream sorption of fulvic acid in an acidic stream: A stream-scale transport experiment. *Water Resour. Res.* 38: 1005-1017.

Klapper, L., D.M. McKnight, J.R. Fulton, E.L. Blunt-Harris, K.P. Nevin, D.R. Lovley, P.G. Hatcher. 2002. Fulvic acid oxidation state detection using fluorescence spectroscopy. *Environm. Sci. Technol.* 36:3170-3175.

August, E.E., D.M. McKnight, D.C. Hrncir, K.S. Garhart. 2002. Seasonal variability of metal transport through a wetland impacted by mine drainage in the Rocky Mountains. *Environm. Sci. Technol.* 36:3779-3786.

Wolfe, A.P., S.S. Kaushal, J.R. Fulton, and D. M. McKnight. 2002. Spectrofluorescence of sediment humic substances and historical changes of lacustrine organic matter provenance in response to atmospheric nutrient enrichment. *Environm. Sci. Technol.* 36:3217-3223.

Maurice, P.A., D.M. McKnight, M. Gooseff, L.Leff, and J.E. Fulghum. 2002. Direct observations of aluminosilicate weatehring in the hyporheic zone of an Antarctic dry valley stream. *Geochimica et Cosmochimica Acta*, v. 66, p. 1335-1347.

Doran, P.T., J.C. Prisco, W.B. Lyons, J.E. Walsh, A.G. Fountain, D.M. McKnight, D.L. Moorhead, R.A. Virginia, D.H. Wall, G.D. Clow, C.H. Fritsen, C.P. McKay, and A. N. Parsons. 2002. Antarctic climate cooling and terrestrial ecosystem response.: *Nature* 415:517-520.

Scott, D. T., D. M. McKnight, B. M. Voelker, D.C. Hrnccir. 2002. Redox processes controlling manganese fate and transport in a mountain stream.: *Environ. Science Technol.* 36:453-459.

McKnight, D.M., E.W. Boyer, P.K. Westerhoff, P.T. Doran, T.Kulbe, and D.T. Andersen (2001). Spectrofluorometric characterization of dissolved organic matter for indication of precursor organic material and aromaticity.: *Limnology and Oceanography*, v. 46, p. 38-48.

Niyogi, D.K., W.M. Lewis, and D.M. McKnight. 2001. Litter breakdown in mountain streams affected by mine drainage:biotic mediation of abiotic controls.: *Ecological Applications*, v. 11, p. 506-516.

Bombliies, A., D.M. McKnight and E.D. Andrews. 2001. Retrospective simulation of lake level rise in Lake Bonney based on recent 21-year record: Indication of recent climate change in the McMurdo Dry Valleys.: *Journal of Paleolimnology*, 25, p. 477-492.

Takacs, C.D., J.P. Prisco and D. M. McKnight. 2001. Bacterial dissolved organic carbon demand in Antarctic Dry Valley lakes.: *Limnology and Oceanography*, v. 46, p. 1189-1194.

McKnight, D.M., B.A. Kimball, and R.L. Runkel. 2001. pH dependence of iron photoreduction in a Rocky Mountain stream affected by acid mine drainage.: *Hydrological.Processes*, v. 15, p.1979-1992.

McKnight, D.M., Howes, B.L., Taylor, C.D., and Goehringer, D.D., 2001, Phytoplankton dynamics in a stably stratified Antarctic lake during winter darkness. : *Journal of Phycology*, v. 36, p. 852-86.

Boyer, E.W., Hornberger, G.M., Bencala, K.E., McKnight, D.M 2000. Effects of asynchronous snowmelt on flushing of dissolved organic carbon: a mixing model approach. *Hydro. Process.* 14: 3291-3308.

McKnight, D.M., Niyogi, D.K., Alger, A.S., Bomblies, A., Conovitz, P.A., and Tate, C.M., 1999, Dry Valley streams in Antarctica: ecosystems waiting for water.: *Bioscience*, v. 49, p. 985-995.

Brooks, P.D., McKnight, D.M., and Bencala, K.E., 1999, The relationship between soil heterotrophic activity, soil dissolved organic carbon (DOC) leachate, and catchment-scale DOC export in headwater catchments.: *Water Resources Research*, v. 35, p. 1895-1902.

Niyogi, D.K., McKnight, D.M., and W.M. Lewis, J., 1999, Influences of water and substrate quality for periphyton in a montane stream affected by acid mine drainage.: *Limnology and Oceanography*, v. 44, p. 804-809.

Scott, D., McKnight, D., Blunt-Harris, E., Kolesar, S., and Lovley, D., 1998, Quinone moieties act as electron acceptors in the reduction of humic substances by humics-reducing microorganisms.: *Environmental Science and Technology*, v. 32, p. 2984-2989.

Runkel, R., McKnight, D.M., and Andrews, E.A., 1998, Analysis of transient storage subject to unsteady flow: diel flow variation in an Antarctic stream.: *J. N. Amer. Benthol. Soc.*, v. 17, p. 143-154.

Hrcir, D., and McKnight, D.M., 1998, Variation in photoreactivity of iron(hydr)oxides taken from an acidic mountain stream.: *Environmental Science and Technology*, v. 32, p. 2137-2141.

McKnight, D.M., 1998, Scientific societies and whistleblowers: the relationship between the community and the individual.: *Science and Engineering Ethics*, v. 4, p. 97-113.

Spaulding, S.A., McKnight, D.M., Stoermer, E.F., and Doran, P.T., 1997, Diatoms in sediments of perennially ice-covered Lake Hoare, and implications for interpreting lake history in the McMurdo Dry Valleys of Antarctica.: *Journal of Paleolimnology*, v. 17, p. 403-420.

McKnight, D.M., Harnish, R., Wershaw, R.L., Baron, J.S., and Schiff, S., 1997, Chemical characteristics of particulate, colloidal, and dissolved organic material in Loch Vale Watershed, Rocky Mountain National Park.: *Biogeochemistry*, v. 36, p. 99-124.

Hauer, F.R., Baron, J.S., Campbell, D.H., Carmack, E.C., Hostetler, S., Leavesley, G.H., Leavitt, P.R., Lee, L.C., McKnight, D.M., and Stanford, J.A., 1996, Response to climatic change of freshwater ecosystems in the Rocky Mountains of U.S. and Canada.: *Hydrologic Processes*, v. 11, p. 903-924.

McKnight, D.M., and Tate, C.M., 1996, Canada Stream: a glacial meltwater stream in Taylor Valley, South Victoria Land, Antarctica. *Journal of North American Benthological Society*, v. 16, p. 14-17.

- Aiken, G.R., McKnight, D.M., Harnish, R.A., and Wershaw, R.L., 1996, Geochemistry of aquatic humic substances in the Lake Fryxell Basin, Antarctica.: *Biogeochemistry*, v. 34, p. 157-188.
- Breault, R.F., Colman, J.A., Aiken, G.R., and McKnight, D.M., 1996, Copper speciation and binding by organic matter in stream water.: *Environmental Science and Technology*, v. 30, p. 3477-3486.
- Boyer, E.W., Hornberger, G.M., Bencala, K.E., and McKnight, D.M., 1996, Response characteristics of DOC flushing in an alpine catchment.: *Hydrologic Processes*, v. 11, p. 1635-1647.
- Broshears, R.E., McKnight, D.M., Runkel, R.L., Kimball, B.A., and Bencala, K.E., 1996, Reactive solute transport in an acidic stream: Experimental pH increase and simulation of controls on pH, aluminum, and iron.: *Environmental Science and Technology*, v. 30, p. 3016-3024.
- Leavesley, G.H., Turner, K., D'Agnesse, F.A., and McKnight, D.M., 1996, Regional delineation of North America for the assessment of freshwater ecosystems and climate change. *Hydrologic Processes*, v. 11, p. 820-827.
- Naiman, R.J., Magnuson, J.J., McKnight, D.M., Stanford, J.A., and Karr, J.R., 1995, Freshwater Ecosystems and their management: a national initiative.: *Science*, v. 270, p. 584-585.
- Runkel, R.L., McKnight, D.M., Bencala, K.E., and Chapra, S.C., 1995, Reactive solute transport in streams: 2. Simulation of a pH-modification experiment.: *Water Resources Research*, v. 32, p. 419-430.
- Tate, C.M., and McKnight, D.M., 1995, Phosphate-snatching: Algal uptake, iron oxide sorption and photoreductive release.: *Limnology and Oceanography*, v. 40, no. 5, p. 938 - 946.
- Boyer, E.W., G.M., H., K.E., B., and D.M., M., 1995, Overview of a simple model describing variation of dissolved organic carbon in an upland catchment., *in Ecological Modelling*.
- McKnight, D.M., Andrews, E.D., Aiken, G.R., and Spaulding, S.A., 1994, Dissolved humic substances in eutrophic coastal ponds at Cape Royds and Cape Bird, Antarctica.: *Limnology and Oceanography*, v. 39, no. 8, p. 1972-1979.
- Hornberger, G.M., Bencala, K.E., and McKnight, D.M., 1994, Hydrological controls on the temporal variation of dissolved organic carbon in the Snake River near Montezuma, Colorado.: *Biogeochemistry*, v. 25, p. 147-165.

- Spaulding, S.A., McKnight, D.M., and Smith, R.L., 1994, Phytoplankton population dynamics in perennially ice-covered Lake Fryxell, Antarctica.: *Journal of Plankton Research*, v. 16, no. 5, p. 527-541.
- Kimball, B.A., Broshears, R.E., Bencala, K.E., and McKnight, D.M., 1994, Coupling of hydrologic transport and chemical reactions in a stream affected by acid mine drainage.: *Environmental Science and Technology*, v. 28, no. 12, p. 2065-2073.
- McKnight, D.M., Smith, R.L., Harnish, R.A., Miller, C.L., and Bencala, K.E., 1993, Seasonal relationships between planktonic microorganisms and dissolved organic material in a Rocky Mountain stream.: *Biogeochemistry*, v. 21, p. 39-59.
- McKnight, D.M., and Andrews, E.D., 1993, Hydrologic and geochemical processes at the stream-lake interface in a permanently ice-covered lake in the McMurdo Dry Valleys, Antarctica.: *Verh. Internat. Verein. Limnol.*, v. 25, p. 957-959.
- McKnight, D.M., Wershaw, R.L., Bencala, K.E., and Feder, G.L., 1992, Humic substances and trace metals associated with Fe and Al oxides deposited in an acidic mountain stream.: *Journal of Science of the Total Environment*, v. 117/118, p. 485-498.
- Aiken, G.R., McKnight, D.M., Thorn, K.A., and Thurman, E.M., 1992, Isolation of hydrophilic organic acids from water using nonionic macroporous resins.: *Organic Geochemistry*, v. 18, no. 4, p. 567-573.
- McKnight, D.M., Bencala, K.E., Zellweger, G.W., Aiken, G.R., Feder, G.L., and Thorn, K.A., 1992, Sorption of dissolved organic carbon by hydrous aluminum and iron oxides occurring at the confluence of Deer Creek with the Snake River, Summit County, Colorado.: *Environmental Science and Technology*, v. 26, no. 7, p. 1388-1396.
- Kimball, B.A., McKnight, D.M., Wetherbee, G.A., and Harnish, R.A., 1992, Mechanisms of iron photoreduction in a metal-rich, acidic stream (St. Kevin Gulch, Colorado, USA).: *Chemical Geology*, v. 96, p. 227-239.
- Baron, J., McKnight, D., and Denning, S., 1991, Sources of dissolved and suspended organic material in Loch Vale Watershed, Rocky Mountain National Park, Colorado, USA.: *Biogeochemistry*, v. 15, p. 89-110.
- McKnight, D.M., Aiken, G.R., and Smith, R.L., 1991, Aquatic fulvic acids in microbially based ecosystems: Results from two desert lakes in Antarctica.: *Limnology and Oceanography*, v. 36, no. 5, p. 998-1006.
- Wissmar, R.C., McKnight, D.M., and Dahm, C.N., 1990, Contributions of organic acids to alkalinity in lakes within the blast zone of Mount St. Helens, Washington.: *Limnology and Oceanography*, v. 35, no. 2, p. 535-542.

Bencala, K.E., McKnight, D.M., and Zellweger, G.W., 1990, Characterization of transport in an acidic and metal-rich mountain stream based on a lithium tracer injection and simulations of transient storage.: *Water Resources Research*, v. 26, no. 5, p. 989-1000.

McKnight, D.M., Smith, R.L., Bradbury, J.P., Baron, J.S., and Spaulding, S., 1990, Phytoplankton populations in lakes in Loch Vale, Rocky Mountain lakes and potential response to lakewater-chemistry changes.: *Arctic and Alpine Research*, v. 22, no. 3, p. 264-274.

McKnight, D.M., and Bencala, K.E., 1990, The chemistry of iron, aluminum, and dissolved organic material in three acidic, metal-enriched, mountain streams, as controlled by watershed and in-stream processes.: *Water Resources Research*, v. 26, no. 12, p. 3087-3100.

McKnight, D.M., and Bencala, K.E., 1989, Reactive iron transport in an acidic mountain stream in Summit County, Colorado: A hydrologic perspective.: *Geochimica et Cosmochimica Acta*, v. 55, p. 2225-2234.

McKnight, D.M., and Bencala, K.E., 1988, Diel variations in iron chemistry in an acidic mountain stream in the Colorado Rocky Mountains, U.S.A.: *Arctic and Alpine Research*, v. 20, no. 4, p. 492-500.

McKnight, D.M., Kimball, B.A., and Bencala, K.E., 1988, Iron photoreduction and oxidation in an acidic mountain stream.: *Science*, v. 240, p. 637-640.

McKnight, D.M., Thorn, K.A., Wershaw, R.L., Bracewell, J.M., and Robertson, G.W., 1988, Rapid changes in dissolved humic substances in Spirit Lake and South Fork Castle Lake, Washington.: *Limnology and Oceanography*, v. 33, no. 6, (part 2), p. 1527-1541.

Bencala, K.E., McKnight, D.M., and Zellweger, G.W., 1987, Evaluation of Natural Tracers in an Acidic and Metal-Rich Stream.: *Water Resources Research*, v. 23, no. 5, p. 827-836.

McKnight, D.M., Thorn, K., and Wershaw, R.L., 1987, Changes in dissolved organic material in Spirit Lake Washington, USA.: *The Science of the Total Environment*, v. 62, p. 189-192.

McKnight, D.M., Thurman, E.M., Wershaw, R.L., and Hemond, H., 1985, The biogeochemistry of aquatic humic substances in Thoreau's Bog, Concord, Massachusetts.: *Ecology*, v. 66, no. 4, p. 1339-1352.

McKnight, D.M., and Feder, G.L., 1984, The ecological effect of acid conditions and precipitation of hydrous metal oxides in a Rocky Mountain stream in Colorado.: *Hydrobiology*, v. 199, p. 129-138.

McKnight, D.M., Chisholm, S.W., and Harleman, D.R.F., 1983, CuSO₄ treatment of nuisance algal blooms in drinking water reservoirs.: *Environ. Manag.*, v. 7, p. 311-320.

McKnight, D.M., Periera, W.E., Rostad, C.E., and Stiles, E.A., 1983, Effect of retorted-oil shale leachate on a blue-green alga (*Anabaena flow-aquae*): *Bull. Environm. Contam. Toxicol.*, v. 30, p. 6-16.

McKnight, D.M., Feder, G.L., Thurman, E.M., Wershaw, R.L., and Westall, J.C., 1983, Complexation of copper by aquatic humic substances from different environments.: *The Science of the Total Environment*, v. 28, p. 65-76.

McKnight, D.M., Periera, W.E., Ceazan, M.L., and Wissmar, R.C., 1982, Characterization of dissolved organic material in surface waters within the blast zone of Mount St. Helens, Washington.: *Organic Geochemistry*, v. 4, p. 85-92.

McKnight, D.M., 1981, Chemical and biological processes controlling the response of a freshwater ecosystem to copper stress: a field study of the CuSO₄ treatment of Mill Pond Reservoir, Burlington, Massachusetts.: *Limnology and Oceanography*, v. 26, p. 518-531.

McKnight, D.M., Feder, G.L., and Stiles, E.A., 1981, Toxicity of volcanic ash leachate to a blue-green alga: Results of a preliminary bioassay experiment.: *Environmental Science and Technology*, v. 15, p. 362-364.

McKnight, D.M., and Morel, F.M.M., 1980, Copper complexation by siderophores from filamentous blue-green algae.: *Limnology and Oceanography*, v. 25, no. 1, p. 62-71.

McKnight, D.M., and Morel, F.M.M., 1979, Release of weak and strong copper complexing agents by algae. *Limnology and Oceanography*, v. 24, no. 5, p. 823-837.

Swallow, K.D., Westall, J.C., McKnight, D.M., Morel, N.M.L., and Morel, F.M.M., 1978, Potentiometric determination of copper complexation by phytoplankton cultures.: *Limnology and Oceanography*, v. 23, p. 538-542.

Books and Book Chapters

Doran, P. T., W. B. Lyons and D. M. McKnight, eds. 2010. *Life in Antarctic Deserts and other Cold Dry Environments: Astrobiological Analogs*. Cambridge University Press, UK.

Gooseff, M. N., D. M. McKnight, M. H. Carr and J. Baeseman. 2010. Antarctic McMurdo Dry Valley stream ecosystems as analog to fluvial systems on Mars. in: Doran, P. T., W. B. Lyons and D. M. McKnight, eds., pp. 139-159. *Life in Antarctic Deserts and other Cold Dry Environments: Astrobiological Analogs*. Cambridge University Press, UK.

Spaulding, S. A., B. Van de Vijer, D. A. Hodgson, D. M. McKnight, E. Verleyen and L. Stanish. 2010. In Smol, J. P. and Stoermer, E.F., eds. Pp. 267-286. *The Diatoms: Applications for the Environmental and Earth Sciences*. Cambridge University Press, UK.

McKnight, D. M., M. N. Gooseff, W. F. Vincent, and B. J. Peterson. 2008. High latitude rivers and streams. In Vincent, W. F. and J. Labourn-Parry (eds.) *Polar Lakes and Rivers*. Oxford University Press, pp. 83-98.

McKnight, D.M., E. Hood, and L. Klapper. 2003. Trace organic moieties of dissolved organic material in natural waters. In Findlay, S. E. G. and R. L. Sinsabaugh (eds.) *Aquatic Ecosystems: Interactivity of Dissolved Organic Material*, Aquatic Ecology Series, Academic Press, pp. 71-93.

McKnight, D. M., D.T. Scott, D.C. Hrncir, D.R. Lovley. 2001. Photochemical and microbial processes influencing iron-humic interactions in stream and lake sediments. In: *Humic Substances and Chemical Contaminants*, pg 351-369. Soil Science Society of America.

McKnight, D.M. 1998, *Aquatic Ecosystems: Defined by Hydrology*, in *Hydrologic Sciences: Taking Stock and Looking Ahead*, Proceedings of 1997 Abel Wolman Lecture and Symposium on Hydrologic Sciences, National Research Council, National Academy Press, pp. 44-66.

Spaulding, S.A., and McKnight, D.M., 1998, Diatoms as indicators of environmental change in Antarctic freshwaters, in Stoermer, E.F., and Smol, J.P., eds., *The Diatoms: Applications to Environmental and Earth Sciences*: Cambridge, Cambridge Univ. Press, p. 245-263

McKnight, D.M., and Aiken, G.R., 1998, Sources and age of aquatic humus, in Hessen, D.O., and Tranvik, L.J., eds., *Aquatic Humic Substances: Ecology and Biogeochemistry*: Berlin, Springer-Verlag, p. 9-39.

Conovitz, P.A., McKnight, D.M., MacDonald, L.H., Fountain, A.G., and House, H.R., 1998, Hydrologic processes influencing streamflow in Fryxell Basin, Antarctica, in Priscu, J.C., ed., *Ecosystem Dynamics in a Polar Desert: the McMurdo Dry Valleys*, Antarctica: Antarctic Research Series: Washington, D.C., American Geophysical Union, p. 93-108.

Lyons, W.B., Welch, K.A., Neumann, K., Toxey, J.K., McArthur, R., Williams, C., McKnight, D.M., and Moorhead, D., 1998, Geochemical linkages among glaciers, streams, and lakes within the Taylor Valley, Antarctica, in Priscu, J.C., ed., *Ecosystem Dynamics in a Polar Desert: the McMurdo Dry Valleys*, Antarctica: Antarctic Research Series: Washington, D.C., American Geophysical Union, p. 77-91.

McKnight, D.M., Alger, A., and Tate, C.M., 1998, Longitudinal patterns in algal abundance and species distribution in meltwater streams in Taylor Valley, Southern Victoria Land, Antarctica, *in* Prisco, J.C., ed., *Ecosystem Dynamics in a Polar Desert: the McMurdo Dry Valleys, Antarctica: Antarctic Research Series*: Washington, D.C., American Geophysical Union, p. 109-127.

Moorhead, D.L., McKnight, D.M., and Tate, C.M., 1998, Modeling nitrogen transformations in dry valley streams, Antarctica, *in* Prisco, J.C., ed., *Ecosystem Dynamics in a Polar Desert: the McMurdo Dry Valleys, Antarctica: Antarctic Research Series*: Washington, D.C., American Geophysical Union, p. 141-151.

Fountain, A.G., Dana, G.L., Lewis, K.J., Vaughn, B.H., and McKnight, D.M., 1998, Glaciers of the McMurdo Dry Valleys, Southern Victoria Land, Antarctica, *in* Prisco, J.C., ed., *Ecosystem Dynamics in a Polar Desert: the McMurdo Dry Valleys, Antarctica: Antarctic Research Series*: Washington, D.C., American Geophysical Union, p. 65-75.

McKnight, D.M., Blood, E.R., and O'melia, C.R., 1996, *Fundamental Research Questions in inland aquatic ecosystem science*, *Freshwater Ecosystems: Revitalizing Educational Programs in Limnology*, National Academy Press.

Naiman, R.J., Magnuson, J.J., McKnight, D.M., and Stanford, J.A., 1995, *The Freshwater Imperative: A Research Agenda*, Island Press.

Kimball, B.A., Broshears, R.E., McKnight, D.M., and Bencala, K.E., 1994, Effects of an instream pH modification on transport of sulfide-oxidation products, *in* Alpers, C.N., and Blowes, D.W., eds., *Environmental Geochemistry of Sulfide Oxidation*, American Chemical Society, p. 224-243.

McKnight, D.M., Aiken, G.R., Andrews, E.D., Bowles, E.C., and Harnish, R.A., 1993, Dissolved organic material in dry valley lakes: A comparison of Lake Fryxell, Lake Hoare and Lake Vanda, *in* Green, W.J., ed., *Physical and Biogeochemical Processes in Antarctic Lake: Antarctic Research Series*, American Geophysical Union Monograph, p. 119-133.

McKnight, D.M., 1991, Feedback mechanisms involving humic substances in aquatic ecosystems, *in* Schneider, S.H., and Boston, P.J., eds., *Scientists on Gaia*: Cambridge, MA, The MIT Press, p. 330-338.

Aiken, G.R., McKnight, D.M., Wershaw, R.L., and Miller, L., 1991, Evidence for the diffusion of aquatic fulvic acids from the sediments of Lake Fryxell, Antarctica, *in* Baker, R.A., ed., *Organic substances and sediments in water*, Lewis Publishers, p. 75-88.

Ranville, J.F., Harnish, R.A., and McKnight, D.M., 1991, Particulate and colloidal organic material in Pueblo Reservoir, Colorado: Influence of autochthonous source on chemical composition, *in* Baker, R.A., ed., *Organic Substances and Sediments in Water: Volume 1: Humics and Soils*, Lewis Publishers, p. 47-73.

Averett, R. A. and McKnight, D.M. (editors) 1987, Chemical Quality of Water and the Hydrologic Cycle: Proceedings of the 8th Rocky Mountain Regional Meeting of the American Chemical Society: Chelsea, MI, Lewis Publishers, Inc, 382 p.

Bencala, K.E., and McKnight, D.M., 1987, Identifying in-stream variability: Sampling iron in an acidic stream, *in* McKnight, R.C.A.a.D.M., ed., Chemical Quality of Water and the Hydrologic Cycle: Chelsea, MI, Lewis Publishers, p. 255-270.

Aiken, G.R., McKnight, D.M., Wershaw, R.L., and MacCarthy, P (editors) 1985, Humic Substances in Soil, Sediment and Water:: New York, John Wiley and Sons, 1092 p.

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.

Technical Reports

Alger, A.S., Spaulding, S.A., Shupe, G.H., and McKnight, D.M., 1997, Species composition and spatial distribution in Green Creek, Taylor Valley, Antarctica: U.S. Antarctic Journal, p. 289-292.

House, H.R., McKnight, D.M., and Guerard, P.v., 1997, The influence of stream channel characteristics on streamflow and annual water budgets for lakes in Taylor Valley: U.S. Antarctic Journal, p. 284-287.

McKnight, D.M., and Tate, C.M., 1997, Algal mat distribution in glacial meltwater streams in Taylor Valley, southern Victoria Land, Antarctica: U.S. Antarctic Journal, p. 287-289.

Alger, A.S., McKnight, D.M., Spaulding, S.A., Tate, C.M., Shupe, G.H., Welch, K.A., Edwards, R., Andrews, E.D., and House, H.R., 1996, Ecological processes in a cold desert ecosystem: the abundance and species distribution of algal mats in glacial meltwater streams in Taylor Valley, Antarctica: Institute of Arctic and Alpine Research Occasional Paper No. 51.

Harnish, R.A., McKnight, D.M., Stephens, V.C., Ranville, J.F., Grace, S., and Orem, W.H., 1996, Particulate, colloidal and dissolved-phase associations of plutonium, americium and uranium in water samples from well 1587, surface water SW-51 and surface water SW-53 at the Rocky Flats Plant, Colorado: U.S. Geological Survey Water Resources Investigation Report.

Von Guerard, P., McKnight, D.M., Harnish, R.A., Gartner, J.W., and Andrews, E.D., 1995, Streamflow, water-temperature, and specific-conductance data for selected streams draining into Lake Fryxell, Lower Taylor Valley, Victoria Land, Antarctica, 1990-92: U.S. Geological Survey Open-File Report 94-545.

Harnish, R.A., McKnight, D.M., and Ranville, J.F., 1993, Colloidal and solution-phase associations of plutonium and americium in ground water, Rocky Flats Plant, Colorado: U.S. Geological Survey Water-Resources Investigations Report 93-4175.

Kimball, B.A., Broshears, R.E., Bencala, K.E., and McKnight, D.M., 1991, Comparison of rates of hydrologic and chemical processes in a stream affected by 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.

Tate, C.M., McKnight, D.M., and Spaulding, S.A., 1991, Phosphate uptake by algae in a stream contaminated by acid mine drainage, St. Kevin Gulch, Leadville, Colorado, *in* U.S. Geological Survey Toxics Substances Hydrology Program—Proceedings of the technical meeting: U.S. Geological Survey Water-Resources Investigations Report 91-4034.

McKnight, D.M., Ranville, J.F., and Harnish, R.A., 1991, Particulate and colloidal organic material and associated trace metals in Pueblo Reservoir, Colorado, *in* U.S. Geological Survey Toxics Substances Hydrology Program—Proceedings of the technical meeting: U.S. Geological Survey Water-Resources Investigations Report 91-4034.

Bencala, K.E., Kimball, B.A., and McKnight, D.M., 1991, Use of variation in solute concentration to identify interactions of the substream zone with instream transport, *in* U.S. Geological Survey Toxics Substances Hydrology Program Proceedings of the technical meeting: U.S. Geological Survey Water-Resources Investigations Report 91-4034.

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.

McKnight, D.M., and Wershaw, R.L., 1989, Complexation of copper by fulvic acid from the Suwannee River - Effect of counter-ion concentration, *in* Humic Substances in the Suwannee River, Georgia—Interactions, Properties, and Proposed Structures: U.S. Geological Survey Open-File Report 87-557.

Leenheer, J.A., McKnight, D.M., Thurman, E.M., and MacCarthy, P., 1989, Structural components and proposed Structural models for Suwannee River fulvic acid, *in* Humic

Substances in the Suwannee River , Georgia—Interactions, Properties, and Proposed Structures: U.S. Geological Survey Open-File Report 87-557.

Malcolm, R.L., McKnight, D.M., and Averett, R.C., 1989, The Okefenokee Swamp: Origin of the Suwannee River: U.S. Geological Survey Open-File Report 87-557.

McKnight, D.M., Kimball, B.A., and Bencala, K.E., 1988, Photoreduction of hydrous iron oxides in acidic mountain streams in Colorado: U.S. Geological Survey Open-File Report 87-764.

Kimball, B.A., Bencala, K.E., McKnight, D.M., and Maura, W.S., 1988, Geochemistry of dissolved metals in St. Kevin Gulch, an acidic mountain stream near Leadville, Colorado, *in* Proceedings of the Technical Meeting: U.S. Geological Survey Open-File Report 87-764.

McKnight, D.M., 1988, Metal-Tolerant Algae in St. Kevin Gulch, Colorado, Proceedings of the Technical Meeting: U.S. Geological Survey Open-File Report 87-764.

Bencala, K.E., McKnight, D.M., Zellweger, G.W., and Kimball, B.A., 1988, Monitoring acidic stream for transport studies, *in* Proceedings of the Technical Meeting: U.S. Geological Survey Open-File Report 87-764.

Zellweger, G.W., Bencala, K.E., McKnight, D.M., Hirsch, R.M., and Kimball, B.A., 1988, Practical aspects of tracer experiments in acidic, metal enriched streams, *in* Proceedings of the Technical Meeting: U.S. Geological Survey Open-File Report 87-764.

McKnight, D., Miller, C., Smith, R., Baron, J., and Spaulding, S., 1988, Phytoplankton Populations in Lakes in Loch Vale, Rocky Mountain National Park, Colorado: Sensitivity to Acidic Conditions and Nitrate Enrichment: U.S. Geological Survey Water-Resources Investigations Report 88-4115.

McKnight, D.M., Aiken, G.R., Andrews, E.D., Bowles, E.C., Smith, R.L., Duff, J.M., and Miller, L.G., 1988, Dissolved organic material in desert lakes in the McMurdo Dry Valleys: U.S. Antarctic Journal, p. 152-153

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.

McKnight, D., Brenner, M., Smith, R., and Baron, J., 1986, Seasonal changes in phytoplankton populations and related chemical and physical characteristics in lake in Loch Vale, Rocky Mountain National Park, Colorado: U.S. Geological Survey Water-Resources Investigations Report 86-4101.

McKnight, D.M., Klein, J., and Wissmar, R.C., 1984, Changes in the organic material in lakes in the blast zone of Mount St. Helens: U.S. Geological Survey Circular 850-L.

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.

VII. GRADUATE STUDENTS ADVISED

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
21. Margaret Bowman
22. Brian Straight
23. Nicholas Schulte

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. Aneilya 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
35. Jessica Egan

VIII. SUMMARY OF COURSES TAUGHT

Natural Organic Material in Water (Spring 1997)
Applied Stream Ecology (regularly, 1997-2014)
Surface Water Quality Modeling (1998-1999)
Alpine Ecology and Experiential Learning (summer 1998-2004)
Introduction to Applied Ecology (regularly, spring 2000-2014)
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)
- Hydrology search committees
- Chair, Environmental Engineering search committee

Local committees and public outreach activities:

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

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
- North American Benthological Society
- 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 (Ecology and Ecosystems in 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