

# Natalie Adriana Griffiths

Research Staff Member

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## Education:

- 2011 Ph.D. in Biological Sciences, University of Notre Dame (UND).  
Dissertation title: Quantifying the impact of row-crop agriculture on carbon dynamics in  
Midwestern streams. Advisor: Dr. J.L. Tank.
- 2005 Honors B.Sc. with High Distinction in Zoology and Physiology, University of Toronto (U of T).

## Appointments and Research Experience:

- 2013-present Research Staff Member, Environmental Sciences Division (ESD), Oak Ridge National  
Laboratory (ORNL).
- 2019-2020 Team Lead for Integrated Water-Energy Systems, Aquatic Ecology Group, ESD, ORNL.
- 2016-2020 Science Lead for Aquatic Ecosystem Dynamics, Aquatic Ecology Group, ESD, ORNL.
- 2010-2013 Postdoctoral Research Associate, ESD, ORNL.
- 2005-2008 Research Assistant, Dept. of Biological Sciences, UND.
- 2004-2005 Undergraduate Theses, Depts. of Zoology and Botany, U of T.
- 2003-2005 Research Assistant, Dept. of Zoology, U of T.
- 2003 Research Assistant, Dept. of Biological Sciences, UND.
- 2002-2003 Undergraduate Thesis, Dept. of Botany, U of T.

## Academic Honors and Awards:

- 2017 Stanley I. Auerbach Award for Excellence in Environmental Sciences, ESD, ORNL.
- 2011 Eli J. and Helen Shaheen Graduate School Award to the Top Ph.D. Graduate in Science, UND.
- 2009 Kaneb Center's Outstanding Graduate Student Teacher Award for Excellence in Teaching, UND.
- 2005 Drew Thompson Scholarship, Trinity College, U of T.
- 2004 Kenneth C. Fisher Memorial Scholarship in Zoology, U of T.
- 2002 Provost's Scholarship, Trinity College, U of T.
- 2001-2005 Dean's List, U of T.

## Research

### Research Focus:

Ecosystem ecology and biogeochemistry and the impacts of anthropogenic activities on aquatic and terrestrial ecosystems

### Publications:

- Curtinrich, H.J., S.D. Sebestyen, **N.A. Griffiths**, and S.J. Hall. Warming stimulates iron-mediated carbon and nutrient cycling in mineral-poor peatlands. Submitted to Ecosystems.
- Stelling, J.M., S.D. Sebestyen, **N.A. Griffiths**, C.P.J. Mitchell, and M. Green. The stable isotopes of natural waters at the Marcell Experimental Forest. Submitted to Hydrological Processes.
- Matson, P.G., L.M. Stevenson, **N.A. Griffiths**, C.R. DeRolph, R.T. Jett, A.M. Fortner, M.W. Jones, N.J. Jones, and T.J. Mathews. Multidecadal Biological Monitoring and Abatement Program assessing human impacts on in-stream aquatic ecosystems within the Oak Ridge Reservation in eastern Tennessee, USA. Submitted to Hydrological Processes.
- Roberts, B.J., **N.A. Griffiths**, J.N. Houser, and P.J. Mulholland. Response of ecosystem metabolism to in-stream restorations along a catchment disturbance gradient. In Review at Ecosystems.
- Griffiths, N.A.**, and P.J. Mulholland. Long-term hydrological and biogeochemical data from Walker Branch Watershed, east Tennessee, USA. In Revision at Hydrological Processes.
- Shi, X., D.M. Ricciuto, P.E. Thornton, X. Xu, F. Yuan, R.J. Norby, A.P. Walker, J. Warren, J. Mao, P.J. Hanson, L. Meng, D. Weston, and **N.A. Griffiths**. Modeling the hydrology and physiology of *Sphagnum* moss in a northern temperate bog. In Revision at Biogeosciences.
- Ardón, M., L.H. Zeglin, R.M. Utz, S.D. Cooper, W.K. Dodds, R.J. Bixby, A.S. Burdett, J.J. Follstad Shah, **N.A. Griffiths**, T.K. Harms, S.L. Johnson, J.B. Jones, J.S. Kominoski, W.H. McDowell, A.D. Rosemond, M.T. Trentman, D.J. Van Horn, and A.K. Ward. Experimental nitrogen and phosphorus enrichment stimulates multiple trophic levels of algal and detrital-based food webs: A global meta-analysis from streams and rivers. In Revision at Biological Reviews.
- Wilson, R.M., M.M. Tfaily, M.M. Kolton, E. Johnson, C. Petro, C.A. Zalman, P.J. Hanson, H.M. Heyman, J.E. Kyle, D.W. Hoyt, E.K. Eder, S.O. Purvine, R.K. Kolka, S.D. Sebestyen, **N.A. Griffiths**, C.W. Schadt, J.K. Keller, S.D. Bridgham, J.P. Chanton, and J. Kostka. Soil metabolome response to whole-ecosystem warming at the Spruce and Peatland Responses Under Changing Environments experiment. In Revision at PNAS.
- Ricciuto, D.M., X. Xu, X. Shi, Y. Wang, X. Song, C.W. Schadt, **N.A. Griffiths**, J. Mao, J.M. Warren, P.E. Thornton, J. Chanton, J.K. Keller, S. Bridgham, J. Gutknecht, S.D. Sebestyen, A. Finzi, R. Kolka, and P.J. Hanson. An integrative model for soil biogeochemistry and methane processes: I. model structure and sensitivity analysis. Accepted at JGR-Biogeosciences.
- Pouil, S., N. Jones, J.G. Smith, S. Mandal, **N.A. Griffiths**, and T.J. Mathews. 2020. Comparing trace element bioaccumulation and depuration in snails and mayfly nymphs at a coal-ash contaminated site. Environmental Toxicology and Chemistry. doi: 10.1002/etc.4857

- Hanson, P.J., **N.A. Griffiths**, C.M. Iversen, R.J. Norby, S.D. Sebestyen, J.R. Phillips, J.P. Chanton, R.K. Kolka, A. Malhotra, K.C. Oleheiser, J.M. Warren, X. Shi, X. Yang, J. Mao, and D.M. Ricciuto. 2020. Rapid net carbon loss from a whole-ecosystem warmed peatland. *AGU Advances* 1:e2020AV000163.
- Bitew, M.M., C.R. Jackson, D.C. Goodrich, S.E. Younger, **N.A. Griffiths**, K.B. Vaché, and B. Rau. 2020. Dynamic domain kinematic modelling for predicting interflow over leaky impeding layers. *Hydrological Processes* 34:2895-2910.
- LeRoy, C.J., A.L. Hipp, K. Lueders, J.J. Follstad Shah, J.S. Kominoski, M. Ardón, W.K. Dodds, M.O. Gessner, **N.A. Griffiths**, A. Lecerf, D.W.P Manning, R.L. Sinsabaugh, and J.R. Webster. 2020. Plant phylogenetic history explains in-stream decomposition at a global scale. *Journal of Ecology* 108:17-35.
- Griffiths, N.A.**, S.D. Sebestyen, and K.C. Oleheiser. 2019. Variation in peatland porewater chemistry over time and space along a bog to fen gradient. *Science of the Total Environment* 697:134152.
- Smits, A.P., C.M. Ruffing, T.V. Royer, A.P. Appling, **N.A. Griffiths**, R. Bellmore, M.D. Scheuerell, T.K. Harms, and J.B. Jones. 2019. Detecting signals of large-scale climate phenomena in discharge and nutrient loads in the Mississippi-Atchafalaya River Basin. *Geophysical Research Letters* 46:3791-3801.
- Tiegs, S., D.M. Costello, M.W. Isken, G. Woodward, P.B. McIntyre, M.O. Gessner, E. Chauvet, **N.A. Griffiths**, A.S. Flecker, and 142 co-authors (listed alphabetically). 2019. Global patterns and drivers of ecosystem functioning in rivers and riparian zones. *Science Advances* 5:eaav0486.
- Griffiths, N.A.**, B.M. Rau, K.B. Vache, G. Starr, M.M. Bitew, D.P. Aubrey, J.A. Martin, E. Benton, and C.R. Jackson. 2019. Environmental effects of short-rotation woody crops for bioenergy: What is and isn't known. *GCB Bioenergy* 11:554-572.
- Appling, A.P., J.S. Read, L.A. Winslow, M. Arroita, E.S. Bernhardt, **N.A. Griffiths**, R.O. Hall Jr., J.W. Harvey, J.B. Heffernan, E.H. Stanley, E.G. Stets, and C.B. Yackulic. 2018. The metabolic regimes of 356 rivers in the United States. *Nature Scientific Data* 5:180292.
- Griffiths, N.A.**, and L.T. Johnson. 2018. Influence of dual nitrogen and phosphorus additions on nutrient uptake and saturation kinetics in a forested headwater stream. *Freshwater Science* 37:810-825.
- Veach, A.M., and **N.A. Griffiths**. 2018. Testing the light-nutrient hypothesis: insights into biofilm structure and function using metatranscriptomics. *Molecular Ecology (Perspective)* 27:2909-2912.
- Tank, J.L., E. Martí, T. Riis, D. von Schiller, A.J. Reisinger, W.K. Dodds, M.R. Whiles, L.R. Ashkenas, W.B. Bowden, S.M. Collins, C.L. Crenshaw, T.A. Crowl, **N.A. Griffiths**, N.B. Grimm, S.K. Hamilton, S.L. Johnson, W.H. McDowell, B.M. Norman, E.J. Rosi, K.S. Simon, S.A. Thomas, and J.R. Webster. 2018. Partitioning assimilatory nitrogen uptake in streams: an analysis of stable isotope tracer additions across continents. *Ecological Monographs* 88:120-138.
- Griffiths, N.A.**, P.J. Hanson, D.M. Ricciuto, C.M. Iversen, A.M. Jensen, A. Malhotra, K.J. McFarlane, R.J. Norby, K. Sargsyan, S.D. Sebestyen, X. Shi, A.P. Walker, E.J. Ward, J.M. Warren, and D.J. Weston. 2017. Temporal and spatial variation in peatland carbon cycling and implications for interpreting responses of an ecosystem-scale warming experiment. *Soil Science Society of America Journal* 81:1668-1688.

- Norman, B.C, M.R. Whiles, S.M. Collins, A.S. Flecker, S.K. Hamilton, S.L. Johnson, E.J. Rosi, L.R. Ashkenas, W.B. Bowden, C.L. Crenshaw, T. Crowl, W.K. Dodds, R.O. Hall Jr., R. El-Sabaawi, **N.A. Griffiths**, E. Martí, W.H. McDowell, S.D. Peterson, H.M. Rantala, T. Riis, K.S. Simon, J.L. Tank, S.A. Thomas, D. von Schiller, and J.R. Webster. 2017. Drivers of nitrogen transfer in stream food webs across continents. *Ecology* 98:3044-3055.
- Follstad Shah, J.J., J.S. Kominoski, M. Ardón, W.K. Dodds, M.O. Gessner, **N.A. Griffiths**, C.P. Hawkins, A. Lecerf, C.J. LeRoy, D.W.P Manning, S.L. Johnson, A.D. Rosemond, R.L. Sinsabaugh, C.M. Swan, J.R. Webster, and L.H. Zeglin. 2017. Global synthesis of the temperature sensitivity of leaf litter breakdown in streams and rivers. *Global Change Biology* 23:3064-3075.
- Griffiths, N.A.**, C.R. Jackson, M.M. Bitew, A.M. Fortner, K.L. Fouts, K. McCracken, and J.R. Phillips. 2017. Water quality effects of short-rotation pine management for bioenergy feedstocks in the southeastern United States. *Forest Ecology and Management* 400:181-198.
- Griffiths, N.A.**, J.L. Tank, T.V. Royer, E.J. Rosi, A.J. Shogren, T.C. Frauendorf, and M.R. Whiles. 2017. Occurrence, leaching, and degradation of Cry1Ab protein from transgenic maize detritus in agricultural streams. *Science of the Total Environment* 592:97-105.
- Brooks, S.C., C.C. Brandt, and **N.A. Griffiths**. 2017. Estimating uncertainty in ambient and saturation nutrient uptake metrics from nutrient pulse releases in stream ecosystems. *Limnology and Oceanography: Methods* 15:22-37.
- Hill, W.R., and **N.A. Griffiths**. 2017. Nitrogen processing by grazers in a headwater stream: riparian connections. *Freshwater Biology* 62:17-29.
- Wilson, R.M., A.M. Hoppole, M.M. Tfaily, S.D. Sebestyen, C.W. Schadt, L. Pfeifer-Meister, C. Medvedeff, K.J. McFarlane, J.E. Kostka, M. Kolton, R. Kolka, L.A. Kluber, J.K. Keller, T.P. Guilderson, **N.A. Griffiths**, J.P. Chanton, S.D. Bridgham, and P.J. Hanson. 2016. Stability of peatland carbon to rising temperatures. *Nature Communications* 7:13723.
- Griffiths, N.A.**, and S.D. Sebestyen. 2016. Dynamic vertical profiles of peat porewater chemistry in a northern peatland. *Wetlands* 36:1119-1130.
- Jackson, C.R., E. Du., J. Klaus, **N.A. Griffiths**, M. Bitew, and J.J. McDonnell. 2016. Interactions among hydraulic conductivity distributions, subsurface topography, and transport thresholds revealed by a multi-tracer hillslope irrigation experiment. *Water Resources Research* 52:6186-6206.
- Griffiths, N.A.**, and S.D. Tiegs. 2016. Organic matter decomposition along a temperature gradient in a forested headwater stream. *Freshwater Science* 32:518-533.
- Du, E., C.R. Jackson, J. Klaus, J.J. McDonnell, **N.A. Griffiths**, M.F. Williamson, J.L. Greco, and M. Bitew. 2016. Interflow dynamics on a low relief forested hillslope: lots of fill, little spill. *Journal of Hydrology* 534:648-658.
- Griffiths, N.A.**, C.R. Jackson, J.J. McDonnell, J. Klaus, E. Du, and M.M. Bitew. 2016. Dual nitrate isotopes clarify the role of biological processing and hydrologic flow paths on nitrogen cycling in subtropical low-gradient watersheds. *JGR-Biogeosciences* 131:422-437.
- Shi, X., P.E. Thornton, D.M. Ricciuto, P.J. Hanson, J. Mao, S.D. Sebestyen, **N.A. Griffiths**, and G. Bisht. 2015. Representing northern peatland microtopography and hydrology within the Community Land Model. *Biogeosciences* 12:6463-6477.

- Klaus, J., J.J. McDonnell, C.R. Jackson, E. Du, and **N.A. Griffiths**. 2015. Where does streamwater come from in low-relief forested watersheds? A dual isotope approach. *Hydrology and Earth System Sciences* 19:125-135.
- Roley, S.S., J.L. Tank, **N.A. Griffiths**, R.O. Hall Jr., and R.T. Davis. 2014. The influence of floodplain restoration on whole-stream metabolism in an agricultural stream: insights from a 5-year continuous data set. *Freshwater Science* 33:1043-1059.
- Dodds, W.K., S.M. Collins, S.K. Hamilton, J.L. Tank, S. Johnson, J.R. Webster, K.S. Simon, M.R. Whiles, H.M. Rantala, W.H. McDowell, S.D. Peterson, T. Riis, C.L. Crenshaw, S.A. Thomas, P.B. Kristensen, B.M. Cheever, A.S. Flecker, **N.A. Griffiths**, T. Crowl, E.J. Rosi-Marshall, R. El-Sabaawi, and E. Martí. 2014. You are not always what we think you eat: selective assimilation across multiple whole-stream isotopic tracer studies. *Ecology* 95:2757-2767.
- Griffiths, N.A.**, and W.R. Hill. 2014. Temporal variation in the importance of a dominant consumer to stream nutrient cycling. *Ecosystems* 17:1169-1185.
- Kominoski, J.S., J.J. Follstad Shah, C. Canhoto, D.G. Fischer, D.P. Gilling, E. González, **N.A. Griffiths**, A. Larrañaga, C.J. LeRoy, M.M. Mineau, Y.R. McElarney, S.M. Shirley, C.M. Swan, and S.D. Tiegs. 2013. Forecasting functional implications of global changes in riparian plant communities. *Frontiers in Ecology and the Environment* 11:423-432.
- Griffiths, N.A.**, J.L. Tank, T.V. Royer, S.S. Roley, E.J. Rosi-Marshall, M.R. Whiles, J.J. Beaulieu, and L.T. Johnson. 2013. Agricultural land use alters the seasonality and magnitude of stream metabolism. *Limnology and Oceanography* 58:1513-1529.
- Tiegs, S.D., J.E. Clapcott, **N.A. Griffiths**, and A.J. Boulton. 2013. A standardized cotton-strip assay for measuring organic-matter decomposition in streams. *Ecological Indicators* 32:131-139.
- Griffiths, N.A.**, J.L. Tank, S.S. Roley, and M.L. Stephen. 2012. Decomposition of maize leaves and grasses in restored agricultural streams. *Freshwater Science* 31:848-864.
- Griffiths, N.A.**, J.L. Tank, T.V. Royer, T.J. Warrner, T.C. Frauendorf, E.J. Rosi-Marshall, and M.R. Whiles. 2012. Temporal variation in organic carbon spiraling in Midwestern agricultural streams. *Biogeochemistry* 108:149-169.
- Parish, E.S., M.R. Hilliard, L.M. Baskaran, V.H. Dale, **N.A. Griffiths**, P.J. Mulholland, A. Sorokine, M.E. Downing, R.S. Middleton, and N.A. Thomas. 2012. Multimetric spatial optimization of switchgrass plantings across a watershed. *Biofuels, Bioproducts and Biorefining* 6:58-72.
- Tank, J.L., E.J. Rosi-Marshall, T.V. Royer, M.R. Whiles, **N.A. Griffiths**, T.C. Frauendorf, and D.J. Treering. 2010. Occurrence of maize detritus and a transgenic insecticidal protein (Cry1Ab) within the stream network of an agricultural landscape. *Proceedings of the National Academy of Sciences of the United States of America* 107:17645-17650.
- Chambers, C.P., M.R. Whiles, E.J. Rosi-Marshall, J.L. Tank, T.V. Royer, **N.A. Griffiths**, M.A. Evans-White, and A.J. Stojak. 2010. Responses of stream macroinvertebrates to Bt maize leaf detritus. *Ecological Applications* 20:1949-1960.
- Tank, J.L., E.J. Rosi-Marshall, **N.A. Griffiths**, S.A. Entekin, and M.L. Stephen. 2010. A review of allochthonous organic matter dynamics and metabolism in streams. *Journal of the North American Benthological Society* 29:118-146.

Warrner, T.J., T.V. Royer, J.L. Tank, **N.A. Griffiths**, E.J. Rosi-Marshall, and M.R. Whiles. 2009. Origin and bioavailability of dissolved organic carbon in agricultural headwater streams in Indiana, USA. *Biogeochemistry* 95:295-307.

**Griffiths, N.A.**, J.L. Tank, T.V. Royer, E.J. Rosi-Marshall, M.R. Whiles, C.P. Chambers, T.C. Frauendorf, and M.A. Evans-White. 2009. Rapid decomposition of maize detritus in agricultural headwater streams. *Ecological Applications* 19:133-142.

Rosi-Marshall, E.J., J.L. Tank, T.V. Royer, M.R. Whiles, M. Evans-White, C. Chambers, **N.A. Griffiths**, J. Pokelsek, and M.L. Stephen. 2007. Toxins in transgenic crop byproducts may affect headwater stream ecosystems. *Proceedings of the National Academy of Sciences of the United States of America* 104:16204-16208.

**Griffiths, N.A.** and H. Cyr. 2006. Are there hot spots for *Elliptio complanata* in the shallow littoral zone of a large Canadian Shield lake? *Canadian Journal of Fisheries and Aquatic Sciences* 63:2137-2147.

### **Book Chapters:**

McManamay, R.A., **N.A. Griffiths**, C.R. DeRolph, and B.M. Pracheil. 2018. A Synopsis of Global Mapping of Freshwater Habitats and Biodiversity: Implications for Conservation. In: Hufnagel, L. (Ed.). *Pure and Applied Biogeography*. Intech, London, United Kingdom, pp. 57-87.

Lamberti, G.A., S.A. Entrekin, **N.A. Griffiths**, and S.D. Tiegs, S.D. 2017. Coarse Particulate Organic Matter: Storage, Transport, and Retention. In: Lamberti, G.A., and F.R. Hauer. (Eds.), *Methods in Stream Ecology: Volume 2: Ecosystem Function*. Elsevier, Academic Press, pp. 55-69.

### **Data Publications and Reports:**

Sebestyen, S.D., K.C. Oleheiser, J.T. Larson, N.A. Aspelin, J.M. Stelling, **N.A. Griffiths**, and N.K. Lany. 2020. Marcell Experimental Forest event based precipitation chemistry, 2008 - ongoing ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/5b8eb3a9b7a572dd56186f0e6b59daf2>.

Sebestyen, S.D., **N.A. Griffiths**, K.C. Oleheiser, and J.M. Stelling. 2020. SPRUCE Precipitation Chemistry and Bulk Atmospheric Deposition Beginning in 2013. Oak Ridge National Laboratory, TES SFA, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <https://doi.org/10.25581/spruce.085/1664397>

**Griffiths, N.A.**, B.S. Helms, J.W. Feminella, S. Bickley, and D.J. Isenberg. 2020. Evaluating the long-term ecological responses to riparian ecosystem restoration at the Fort Benning, Georgia Military Installation in Georgia. Final report for DoD SERDP. ORNL/SPR-2020/1522, SERDP Project #RC-2704.

Visser, A., **N.A. Griffiths**, and S.D. Sebestyen. 2019. SPRUCE Tritium in Porewater of SPRUCE Experimental Plots and Neighboring Peatlands, and in Groundwater, Stream Water, and Precipitation of the S1 Bog, 2014-2016. Oak Ridge National Laboratory, TES SFA, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <https://doi.org/10.25581/spruce.069/1532523>

**Griffiths, N.A.**, C.R. Jackson, J.I. Blake, J. Jeffers, B. Rau, G. Starr, and K. Vache. 2019. Environmental effects of short-rotation loblolly pine production for bioenergy and evaluation of current forestry best management practices. Oak Ridge National Laboratory, ORNL/TM-2018/1055. <https://bioenergykdf.net/content/environmental-effects-short-rotation-loblolly-pine-production-bioenergy-and-evaluation>

- Sebestyen, S.D., C. Kendall, E.M. Elliott, S.L. Schiff, R.T. Barnes, J.T. Bostic, A.R. Buda, D.A. Burns, J.L. Campbell, B.D. Dail, K.N. Eshleman, I.J. Fernandez, J.C. Finlay, C.L. Goodale, **N.A. Griffiths**, S.J. Hall, G.B. Lawrence, G.M. Lovett, P.J. McHale, M.J. Mitchell, D.M. Nelson, S.J. Nelson, N. Ohte, L.H. Pardo, L.A. Rose, D.S. Ross, R.D. Sabo, J.B. Shanley, M.D. Shattuck, J. Spoelstra, S.R. Weintraub, T.R. Wickman, and K.W.J. Williard. 2019. Nitrate isotope database for meteoric waters, surface waters, soil waters, and groundwaters. Fort Collins, CO: Forest Service Research Data Archive. <https://doi.org/10.2737/RDS-2019-0003>
- Griffiths, N.A.**, and L.T. Johnson. 2018. Walker Branch Watershed: Effect of Dual Nitrogen and Phosphorus Additions on Nutrient Uptake and Saturation Kinetics, 2011-2012. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <https://doi.org/10.25581/ornlsfa.015/1484490>
- Griffiths, N.A.**, and S.D. Sebestyen. 2017. SPRUCE Hollow Elevation Data for Experimental Plots Beginning in 2015. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.035>
- Sebestyen, S.D., and **N.A. Griffiths**. 2016. SPRUCE Enclosure Corral and Sump System: Description, Operation, and Calibration. Climate Change Science Institute, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.030>
- Griffiths, N.A.**, and S.D. Sebestyen. 2016. SPRUCE Porewater Chemistry Data for Experimental Plots Beginning in 2013. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.028>
- Griffiths, N.A.** and S.D. Sebestyen. 2016. SPRUCE S1 Bog Porewater, Groundwater, and Stream Chemistry Data: 2011-2013. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.018>
- Wilson, R.M., A.M. Hopple, M.M. Tfaily, S.D. Sebestyen, C.W. Schadt, L. Pfeifer-Meister, C. Medvedeff, K.J. McFarlane, J.E. Kostka, M. Kolton, R. Kolka, L.A. Kluber, J.K. Keller, T.P. Guilderson, **N.A. Griffiths**, J.P. Chanton, S.D. Bridgham, and P.J. Hanson. 2016. SPRUCE Stability of Peatland Carbon to Rising Temperatures: Supporting Data. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.026>
- Shi, X., Thornton, P.E., Ricciuto, D.M., Hanson, P.J., Mao, J., Sebestyen, S.D., **Griffiths, N.A.**, and Bisht, G. 2016. SPRUCE Representing Northern Peatland Microtopography and Hydrology within the Community Land Model: Modeling Archive. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.031>
- Mulholland, P.J., and **N.A. Griffiths**. 2016. Walker Branch Watershed: Weekly Stream Water Chemistry. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/ornlsfa.009>
- Mulholland, P.J., and **N.A. Griffiths**. 2016. Walker Branch Watershed: Daily Climate and Soil Temperature Data. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/ornlsfa.008>

Mulholland, P.J., and **N.A. Griffiths**. 2016. Walker Branch Watershed: 15-minute and Daily Stream Discharge and Annual Runoff. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/ornlsfa.007>

Mulholland, P.J., and **N.A. Griffiths**. 2016. Walker Branch Watershed: Hourly, Daily, and Annual Precipitation. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/ornlsfa.006>

**Griffiths, N.A.**, and S.D. Tiegs. 2016. Walker Branch Watershed: Temperature Response of Organic-Matter Decomposition in a Headwater Stream. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/ornlsfa.003>

**Griffiths, N.A.**, L.A. Hook and P.J. Hanson. 2016. SPRUCE S1 Bog and SPRUCE Experiment Location Survey Results, 2015. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tennessee, U.S.A. <http://dx.doi.org/10.3334/CDIAC/spruce.015>

### **Research Grants and Fellowships:**

- 2018-2021 Department of Energy, Bioenergy Technologies Office (BETO), ‘Spatially resolved measurements of water quality within a bioenergy landscape’. Lead PI.
- 2017-2019 Strategic Environmental Research and Development Program (SERDP), ‘Evaluating the long-term ecological responses to riparian ecosystem restoration at the Fort Benning, Georgia military installation’. Lead PI with co-PIs B. Helms and J. Feminella, Auburn University.
- 2016 Climate Change Science Institute, Oak Ridge National Laboratory, Early Career Project. Carbon fluxes across aquatic-terrestrial interfaces.
- 2013-2018 Department of Energy, Bioenergy Technologies Office (BETO), ‘Short-rotation woody biomass sustainability’. Lead PI with multiple co-PIs.
- 2010 Sigma Xi Grant-in-Aid of Research. Decomposition of corn leaves and native and invasive grasses in the floodplains of restored agricultural streams (\$965).
- 2008-2009 Bayer Predoctoral Research Fellowship, UND (\$8,000).
- 2008-2009 National Science Foundation (NSF) Doctoral Dissertation Improvement Grant (DDIG) (with J.L. Tank). Transport, sorption, and degradation of Cry1Ab toxins derived from genetically engineered corn crop byproducts in agricultural streams (\$11,499).
- 2008-2009 McDonald Undergraduate Research Grant (with undergraduate J. Kang), UND (\$500).
- 2007-2010 Natural Sciences and Engineering Research Council of Canada (NSERC) Post-Graduate Scholarship: Doctoral (PGS-D). The role of agricultural land use on carbon cycling in Midwestern headwater streams (\$63,000).
- 2007 North American Benthological Society Presidential Award (\$600).
- 2005-2006 NSERC Post-Graduate Scholarship: Masters (PGS-M). The role of agricultural land use on carbon cycling in Midwestern headwater streams (\$17,300).



- 2004 NSERC PGS-M (\$17,300; awarded but declined).
- 2004 NSERC Undergraduate Student Research Award. Phosphorus loading of sediments in a large Canadian Shield lake (\$6,000).
- 2002 Northrop Frye BIO150Y Scholarship, U of T. The impact of induced plant responses of the common milkweed (*Asclepius syriaca*) on its herbivore community (\$4,000).

**Invited Presentations:**

- 2019 Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, Richland, WA.
- 2019 Department of Biological Sciences, Virginia Tech, Blacksburg, VA.
- 2018 Ecology and Evolutionary Biology Department, University of Tennessee, Knoxville, TN.
- 2016 Robert B. Annis Water Resources Institute, Grand Valley State University, Muskegon, MI.
- 2014 School of Public and Environmental Affairs, Indiana University, Bloomington, IN.

**Conference Presentations:**

- Griffiths, N.A.**, P.S. Levi, J.S. Riggs, C.R. DeRolph, A.M. Fortner, and J.K. Richards. Development and testing of an unmanned surface vehicle platform for mapping water quality in streams and rivers. Society for Freshwater Science (SFS) virtual conference, June 2020. Poster presentation.
- Landon, M.E., T.J. Mathews, **N.A. Griffiths**, and R.A. McManamay. Machine learning for autonomous benthic macroinvertebrate identification. SFS virtual conference, June 2020. Poster presentation.
- Griffiths, N.A.**, P.J. Hanson, C.M. Iversen, R.J. Norby, J.R. Phillips, D.M. Ricciuto, S.D. Sebestyen, X. Shi, J.M. Warren, D.J. Weston, and X. Yang. Response of peatland net ecosystem carbon flux to warming and elevated CO<sub>2</sub>: findings from the first three years of a decadal ecosystem-scale experiment. AGU Chapman conference on Understanding Carbon Climate Feedbacks, San Diego, CA, August 2019. Poster presentation.
- Jackson, C.R., J. Jeffers, **N.A. Griffiths**, B. Rau, M. Bitew, and K.B. Vache. Riparian denitrification prevents groundwater nitrate from reaching an intermittent blackwater stream. Ecological Society of America (ESA) conference, Louisville, KY, August 2019. Oral presentation.
- Tiegs, S.D., D. Costello, M. Isken, G. Woodward, P.B., McIntyre, E. Chauvet, A. Flecker, M.O. Gessner, **N.A. Griffiths**, and the CELLDEX Consortium. Global patterns of organic-matter decomposition in riverine ecosystems demonstrated through peer sourcing. Symposium for European Freshwater Science, Zagreb, Croatia, July 2019. Oral Presentation.
- Griffiths, N.A.**, S.D. Sebestyen, K. Oleheiser, and P.J. Hanson. Stream flow and solute flux responses to warming and elevated CO<sub>2</sub> in a boreal peatland. SFS conference, Salt Lake City, UT, May 2019. Oral presentation.
- Ardon, M., L. Zeglin, R. Utz, S. Cooper, W. Dodds, R. Bixby, A. Burdett, J. Follstad Shah, **N.A. Griffiths**, T. Harms, L. Johnson, S. Johnson, J. Jones, J. Kominoski, W.H. McDowell, A. Rosemond, M.T.

- Trentman, D. Van Horn, and A. Ward. Experimental nutrient enrichment stimulates multiple trophic levels through algal and detrital food web pathways: A global meta-analysis from streams and rivers. SFS conference, Salt Lake City, UT, May 2019. Oral presentation.
- Bickley, S., D. Isenberg, **N.A. Griffiths**, B. Helms, and J. Feminella. Lack of long-term effect of coarse woody debris dam restoration on ecosystem functioning and water quality in Coastal Plain streams. SFS conference, Salt Lake City, UT, May 2019. Oral presentation.
- Costello, D., D. Mathie, S.D. Tiegs, and the CELLDEX consortium. A global study of nutrient controls on organic-matter processing. SFS conference, Salt Lake City, UT, May 2019. Oral presentation.
- Isenberg, D., S. Bickley, J. Feminella, **N.A. Griffiths**, and B. Helms. What are the long-term effects of habitat augmentation on biotic composition of streams draining longleaf pine forests? SFS conference, Salt Lake City, UT, May 2019. Oral presentation.
- Isenberg, D., S. Bickley, J. Feminella, **N.A. Griffiths**, and B. Helms. Long-term effects of in-stream restoration on biotic assemblages in sandy bottom streams in Fort Benning Military Installation, GA. Association of Southeastern Biologists annual meeting, Memphis, TN, April 2019. Oral presentation.
- Griffiths, N.A.**, S.D. Sebestyen, K.C. Oleheiser, and P.J. Hanson. Whole-ecosystem warming in a boreal peatland ecosystem alters stream flow and total organic carbon fluxes. Environmental System Science (ESS) PI meeting, Potomac, MD, April 2019. Poster presentation.
- Iversen, C.M., J. Latimer, D.J. Brice, J. Childs, H.M. Vander Stel, **N.A. Griffiths**, A. Malhotra, R.J. Norby, K. Oleheiser, S. Sebestyen, and P.J. Hanson. Warming increases plant-available nutrients in the SPRUCE bog. ESS PI meeting, Potomac, MD, April 2019. Poster presentation.
- Hanson, P.J., J. Phillips, R. Norby, J. Warren, **N.A. Griffiths**, and D. Ricciuto. Peatland responses to warming and elevated CO<sub>2</sub>: CO<sub>2</sub> and CH<sub>4</sub> flux responses, the status of vegetation net primary production and implications for ecosystem carbon exchange after 3-years of manipulation. European Geophysical Union general assembly, Vienna, Austria, April 2019. Oral presentation.
- Griffiths, N.A.**, and C.R. Jackson. Short-rotation woody biomass sustainability. US Department of Energy Bioenergy Technologies Office 2019 Peer Review Meeting: Sustainability Platform, Denver, CO, March 2019. Oral presentation.
- Griffiths, N.A.** Spatially resolved environmental sustainability metrics for bioenergy. US Department of Energy Bioenergy Technologies Office 2019 Peer Review Meeting: Sustainability Platform, Denver, CO, March 2019. Oral presentation.
- Levi, P.S., **N.A. Griffiths**, K. VanDooren, and E.D. Anderson. A drop in the bucket? The role of small-scale restorations on improving downstream water quality. Upper Midwestern Stream Restoration Symposium, La Crosse, WI, February 2019. Oral presentation.
- Griffiths, N.A.**, S.D. Sebestyen, and K. Oleheiser. A large-scale warming experiment reveals changes to stream flow and solute concentrations in a northern peatland ecosystem. American Geophysical Union (AGU) fall meeting, Washington DC, December 2018. Oral presentation.
- Hanson, P.J., **N.A. Griffiths**, J.R. Phillips, D.J. Brice, W.R. Nettles, J. Warren, and E.J. Ward. Peatland woody vegetation growth response to warming and implications for ecosystem carbon gain or loss. AGU fall meeting, Washington DC, December 2018. Poster presentation.

- Griffiths, N.A.**, S. Bickley, D.J. Isenberg, B.S. Helms, and J.W. Feminella. Evaluating long-term stream ecosystem responses to restoration at Fort Benning Military Installation in Georgia. SERDP-ESTCP Symposium, Washington DC, November 2018. Poster presentation.
- Griffiths, N.A.**, C.R. Jackson, G. Starr, B. Rau, K.B. Vache, J.J. McDonnell, M. Bitew, E. Du, J. Klaus, J. Jeffers, K. Fouts, A. Fortner, K. McCracken, and J. Phillips. Environmental effects of short-rotation pine production for bioenergy: Findings from a watershed experiment. Society of American Foresters (SAF) National Convention, Portland, OR, October 2018. Oral presentation.
- Vache, K.B., M. Bitew, **N.A. Griffiths**, and C.R. Jackson. Hydrologic effects of short-rotation woody crops at landscape scales modeled over multiple rotations. SAF National Convention, Portland, OR, October 2018. Oral presentation.
- Bickley, S., D. Isenberg, **N.A. Griffiths**, B. Helms, and J. Feminella. The long-term effect of stream restoration on water-quality, nutrient uptake, and whole-stream metabolism in sandy-bottom, coastal plain streams. Alabama Water Resources Conference, Orange Beach, AL, September 2018. Oral presentation.
- Isenberg, D., S. Bickley, J. Feminella, **N.A. Griffiths**, and B. Helms. Long-term effects of in-stream restoration on macroinvertebrates in sandy bottom streams at Fort Benning Military Installation, GA. ESA conference, New Orleans, LA, August 2018. Poster presentation.
- Griffiths, N.A.**, R.K. Kolka, C.M. Iversen, S.D. Tiegs, and D.J. Brice. Effects of warming and elevated CO<sub>2</sub> on organic matter decomposition in a peatland using an ecosystem-scale experiment. SFS conference, Detroit, MI, May 2018. Oral presentation.
- Bickley, S., D. Isenberg, **N.A. Griffiths**, B. Helms, and J.W. Feminella. Long-term stream restoration effects on ecosystem functions in Coastal Plain streams. SFS conference, Detroit, MI, May 2018. Oral presentation.
- Hall, R.O., E. Stets, A. Appling, E. Bernhardt, **N.A. Griffiths**, J. Harvey, and C. Yackulic. Within versus among river variation in gas exchange rate. SFS conference, Detroit, MI, May 2018. Oral presentation.
- Isenberg, D., S. Bickley, J. Feminella, **N.A. Griffiths**, and B. Helms. Long-term effects of in-stream restoration on macroinvertebrates in sandy bottom streams at Fort Benning Military Installation, GA. SFS conference, Detroit, MI, May 2018. Poster presentation.
- Tiegs, S.D., D. Costello, M. Isken, G. Woodward, P.B. McIntyre, E. Chauvet, A. Flecker, M. Gessner, **N.A. Griffiths**, and The CELLDEX Consortium. Global patterns and controls of organic-matter decomposition in streams and riparian zones revealed through crowdsourcing. SFS conference, Detroit, MI, May 2018. Oral presentation.
- Griffiths, N.A.**, R.K. Kolka, C.M. Iversen, S.D. Tiegs, and D.J. Brice. Initial effects of warming and elevated CO<sub>2</sub> on organic-matter decomposition in a black spruce-*Sphagnum* bog. ESS PI meeting, Potomac, MD, April 2018. Poster presentation.
- Iversen, C.M., J. Latimer, D.J. Brice, J. Childs, H.M. Vander Stel, **N.A. Griffiths**, A. Malhotra, R.J. Norby, K. Oleheiser, S.D. Sebestyen, E. Ward, J. Warren, and P.J. Hanson. Warming increases plant-available nutrients in the SPRUCE bog. ESS PI meeting, Potomac, MD, April 2018. Poster presentation.

- Shi, X., D.M. Ricciuto, P.E. Thornton, P.J. Hanson, X. Xu, J. Mao, J. Warren, F. Yuan, R.J. Norby, S.D. Sebestyen, **N.A. Griffiths**, D.J. Weston, and A. Walker. Representing northern peatland hydrology and biogeochemistry with ALM land surface model. AGU fall meeting, New Orleans, LA, December 2017. Poster presentation.
- Kolka, R.K., **N.A. Griffiths**, C. Iversen, S.D. Tiegs. Temperature influences on peatland decomposition: early results from the SPRUCE experiment. Soil Science Society of America annual meeting, Tampa, FL, October 2017. Poster presentation.
- Hanson, P.J., J.R. Phillips, J. Graham, R.J. Norby, J.M. Warren, S.D. Wullschlegel, **N.A. Griffiths**, L. Spaete, and N. Glenn. Peatland responses to warming and elevated CO<sub>2</sub>: early CO<sub>2</sub> and CH<sub>4</sub> flux responses and the status of tree and shrub net primary production. ESA conference, Portland, OR, August 2017. Poster presentation.
- Heffernan, J., P. Savoy, E. Stets, A. Appling, E. Bernhardt, J. Read, E. Stanley, R. Hall, M. Arroita, J. Finlay, **N.A. Griffiths**, J. Harvey, D. Lorenz, and C. Yackulic. Macro-scale and local drivers of annual metabolism in streams and rivers. SFS conference, Raleigh, NC, May 2017. Oral presentation.
- Smits, A., C. Ruffing, T.V. Royer, A. Appling, **N.A. Griffiths**, R. Bellmore, M. Scheuerell, T. Harms, and J. Jones. Climate drivers of variability and synchrony in discharge and nutrient loads in the Mississippi Basin. SFS conference, Raleigh, NC, May 2017. Oral presentation.
- Griffiths, N.A.**, and S.D. Sebestyen. Initial effects of warming on water and solute yields from a Black Spruce-*Sphagnum* bog. ESS PI meeting, Potomac, MD, April 2017. Poster presentation.
- Griffiths, N.A.**, C.R. Jackson, M. Bitew, K. Vache, J.J. McDonnell, G. Starr, J.I. Blake, and B.M. Rau. Short-rotation woody biomass sustainability. US Department of Energy Bioenergy Technologies Office 2017 Peer Review Meeting: Sustainability Platform, Denver, CO, March 2017. Oral presentation.
- Stets, E.G., A.P. Appling, R.O. Hall, C.B. Yackulic, E.S. Bernhardt, E.G. Stanley, J.B. Heffernan, J.S. Read, J.W. Harvey, M. Arroita, and **N.A. Griffiths**. Advances in stream metabolism studies: Steps toward a comprehensive, long-term perspective. Association for the Sciences of Limnology and Oceanography (ASLO) conference, Honolulu, HI, February 2017. Oral presentation.
- Griffiths, N.A.**, and S.D. Sebestyen. Effects of whole-ecosystem warming on porewater chemistry and hydrology in a northern peatland. AGU fall meeting, San Francisco, CA, December 2016. Poster presentation.
- Bitew, M.M., C.R. Jackson, K.B. Vache, **N.A. Griffiths**, G. Starr, J.J. McDonnell, B. Rau, S. Younger, and K. Fouts. Water quantity and quality impacts of intensive woody biomass feedstock production in the southeastern U.S. AGU fall meeting, San Francisco, CA, December 2016. Poster presentation.
- Visser, A., R. Wilson, S. Sebestyen, **N.A. Griffiths**, J. Chanton, N. Veale, K.J. McFarlane, R.K. Kolka, and T. Guilderson. Interlinkages between carbon and water residence times in peat. AGU fall meeting, San Francisco, CA, December 2016. Poster presentation.
- Rau, B.M., **N.A. Griffiths**, C.R. Jackson, J. Blake. Nitrogen cycling in short rotation pine. Soil Science Society of America annual meeting, Phoenix, AZ, November 2016. Oral presentation.
- Bitew, M.M., C.R. Jackson, K. Vache, J.J. McDonnell, **N.A. Griffiths**, G. Starr, S. Younger, K. Fouts, and B. Rau. Modeling hydrologic impacts of intensive woody biomass feedstock production in the

- southeastern U.S. Short-Rotation Woody Crops Operations Working Group Meeting, Fort Pierce, FL, October 2016. Oral presentation.
- Hanson, P.J., D.M. Ricciuto, K.J. McFarlane, J.P. Chanton, **N.A. Griffiths**, R.K. Kolka, and additional project participants. Peatland carbon impacts from warming and elevated CO<sub>2</sub>: initial responses from the SPRUCE in situ manipulations. The 10<sup>th</sup> INTERCOL International Wetlands Conference, Changshu, China, September 2016. Oral presentation.
- Griffiths, N.A.**, C.R. Jackson, M. Bitew, E. Du, K. Vache, J.J. McDonnell, N. Orlowski, J. Klaus, G. Starr, S. George, and B.M. Rau. Examining the effects of woody biomass production for bioenergy on water quality, soil quality, and hydrology in the southeastern United States. Symposium on Watershed Scale Sustainability of Forest-Based Bioenergy Production, Raleigh, NC, September 2016. Oral presentation.
- Griffiths, N.A.**, C.R. Jackson, M. Bitew, A.M. Fortner, J.R. Phillips, K. McCracken, and K.L. Fouts. Evaluating the water quality effects of short-rotation pine production for bioenergy using a watershed-scale experiment. ESA conference, Fort Lauderdale, FL, August 2016. Oral presentation.
- Griffiths, N.A.**, and S.D. Sebestyen. Quantifying variability in peatland porewater chemistry in the context of a large-scale climate change experiment. SFS conference, Sacramento, CA, May 2016. Oral presentation.
- Heffernan, J., A. Appling, E. Bernhardt, **N.A. Griffiths**, R. Hall, J. Harvey, M. Arroita, E. Stanley, E. Stets, D. Lorenz, J. Read, C. Yackulic. Annual metabolism of US streams and rivers. SFS conference, Sacramento, CA, May 2016. Oral presentation.
- Griffiths, N.A.**, and S.D. Sebestyen. Peatland porewater chemistry responses to deep peat and whole-ecosystem warming. ESS PI meeting, Potomac, MD, April 2016. Poster presentation.
- Jackson, C.R., M.M Bitew, E. Du, **N.A. Griffiths**, L. Hopp, J. Klaus, J.J. McDonnell, and K.B. Vache. Headwater streams in porous landscapes: what's the contributing area? AGU fall meeting, San Francisco, CA, December 2015. Oral presentation.
- Shi, X., D.M. Ricciuto, X. Xu, P.E. Thornton, P.J. Hanson, J. Mao, S. Sebestyen, **N.A. Griffiths**. Representing northern peatland hydrology and biogeochemistry within the Community Land Model. AGU fall meeting, San Francisco, CA, December 2015. Poster presentation.
- Appling, A., J.S. Read, R.O. Hall, E. Stets, E.H. Stanley, E.S. Bernhardt, J.B. Heffernan, M. Arroita, **N.A. Griffiths**, J.W. Harvey, D.L. Lorenz, L. Winslow, C.B. Yackulic. Synchrony and divergence in stream metabolism across the continental United States. AGU fall meeting, San Francisco, CA, December 2015. Poster presentation.
- Wilson, R.M., B.J. Woodcroft, R.K. Varner, G.W. Tyson, M.M. Tfaily, S.D. Sebestyen, S.R. Saleska, K. Rogers, V.I. Rich, K.J. McFarlane, J.E. Kostka, R.K. Kolka, J. Keller, C.M. Iversen, S.B. Hodgkins, P.J. Hanson, T.P. Guilderson, **N.A. Griffiths**, F. de La Cruz, P.M. Crill, J.P. Chanton, S.D. Bridgham, and M. Barlaz. Production of excess CO<sub>2</sub> relative to methane in peatlands: a new H<sub>2</sub> sink. AGU fall meeting, San Francisco, CA, December 2015. Poster presentation.
- Griffiths, N.A.**, C.R. Jackson, M. Bitew, E. Du, K. Vache, J.J. McDonnell, N. Orlowski, J. Klaus, G. Starr, S. George, J.I. Blake, and B.M. Rau. Examining the effects of woody biomass production for bioenergy on water quality and hydrology in the southeastern United States. Third Annual National Bioenergy Day, October 2015. Webinar presentation.

**Griffiths, N.A.**, and S.D. Sebestyen. Effect of deep peat warming on porewater chemistry in a northern peatland ecosystem. ESA conference, Baltimore, MD, August 2015. Poster presentation.

Iversen, C.M., P.J. Hanson, R.K. Kolka, **N.A. Griffiths**, L. Hook, W.R. Nettles, R.J. Norby, J. Phillips, D.M. Ricciuto, C.W. Schadt, S. Sebestyen, J.M. Warren, and D.J. Weston. Peatland responses to atmospheric and climatic change: the SPRUCE experiment warms an ombrotrophic bog from deep, ancient peat to the forest canopy. Society for Wetland Scientists conference, Providence, RI, June 2015. Oral presentation.

**Griffiths, N.A.**, C.R. Jackson, J.J. McDonnell, M. Bitew, E. Du, and J. Klaus. Effects of short-rotation pine management for bioenergy on water quality in the southeastern United States. SFS conference, Milwaukee, WI, May 2015. Oral presentation.

Follstad Shah, J., J.S. Kominoski, M. Ardón, W.K. Dodds, M.O. Gessner, **N.A. Griffiths**, S.L. Johnson, A. Lecerf, C.J. LeRoy, D.W. Manning, A.D. Rosemond, C.M. Swan, J.R. Webster, and L.H. Zeglin. Global meta-analysis of temperature effect on leaf litter breakdown rates in streams. SFS conference, Milwaukee, WI, May 2015. Oral presentation.

Zeglin, L.H., S.D. Cooper, R.M. Utz, M. Ardón, B. Bixby, A. Burdett, W.K. Dodds, **N.A. Griffiths**, T. Harms, L.T. Johnson, S.L. Johnson, J. Jones, J.S. Kominoski, W.H. McDowell, A.D. Rosemond, M. Trentman, J. Follstad Shah, D. Van Horn, and A. Ward. Synthesis of stream ecosystem responses to nutrient enrichment at multiple trophic levels. SFS conference, Milwaukee, WI, May 2015. Oral presentation.

**Griffiths, N.A.**, and S.D. Sebestyen. Responses of peat porewater chemistry to deep peat warming in a northern peatland. ESS PI meeting, Potomac, MD, April 2015. Poster presentation.

**Griffiths, N.A.**, C.R. Jackson, K. Vache, J.J. McDonnell, G. Starr, J.I. Blake, and B.M. Rau. Short-rotation woody biomass sustainability. Bioenergy Technologies Office 2015 Peer Review Meeting: Sustainability Platform, Alexandria, VA, March 2015. Oral presentation co-presented with C.R. Jackson.

**Griffiths, N.A.**, C.R. Jackson, M. Bitew, D. Du, K. Vache, J.J. McDonnell, J. Klaus, and B.M. Rau. Evaluating the effects of woody biomass production for bioenergy on water quality and hydrology in the southeastern United States. Interagency Conference on Research in the Watersheds, Charleston, SC, March 2015. Oral presentation.

**Griffiths, N.A.**, C.R. Jackson, J.J. McDonnell, M.M. Bitew, E. Du, and J. Klaus. Water quality response after two years of short-rotation pine management for bioenergy in the southeastern U.S. AGU fall meeting, San Francisco, CA, December 2014. Poster presentation.

Bitew, M.M., C.R. Jackson, J.J. McDonnell, K. Vache, and **N.A. Griffiths**. Dynamic downslope travel distance modeling: Interflow modeling from bottom of slope upwards. AGU fall meeting, San Francisco, CA, December 2014. Poster presentation.

Jackson, C.R., L. Hopp, J.J. McDonnell, M. Bitew, E. Du, J. Klaus, and **N.A. Griffiths**. Interflow moving over leaky impeding layers: how far can we expect it to go? AGU fall meeting, San Francisco, CA, December 2014. Poster presentation.

Sebestyen, S.D., and **N.A. Griffiths**. Water and solute connectivity in northern peatlands of Minnesota: assessing how hydrological connectivity affects solute yields from peatland catchments and responds to climate change. AGU fall meeting, San Francisco, CA, December 2014. Poster presentation.

Sebestyen, S.D., and **N.A. Griffiths**. Hydrological connectivity and linkages of subsurface biogeochemical processing in peats to solute yields from northern peatland catchments. Soil Science Society of America annual meeting, Long Beach, CA, November 2014. Oral presentation.

**Griffiths, N.A.**, C.R. Jackson, M. Bitew, E. Du, K.B. Vache, J.J. McDonnell, J. Klaus, and C.C. Trettin. Environmental sustainability of woody biomass production for bioenergy in the southeastern United States. Short-Rotation Woody Crops Operations Working Group Meeting, Seattle, WA, July 2014. Oral presentation.

**Griffiths, N.A.**, and S.D. Sebestyen. Vertical profiles of peat pore water chemistry in an ombrotrophic peatland and expected vulnerabilities to climate change. Joint Aquatic Sciences Meeting, Portland OR, May 2014. Oral presentation.

**Griffiths, N.A.**, C.R. Jackson, M. Bitew, E. Du, K.B. Vache, J.J. McDonnell, J. Klaus, and J.I. Blake. Assessing BMP effectiveness for woody biomass production for bioenergy in groundwater-dominated Coastal Plain watersheds. Symposium on Forestry Best Management Practice (BMP) Effectiveness in the Eastern U.S., Blacksburg, VA, May 2014. Oral presentation.

**Griffiths, N.A.**, and S.D. Sebestyen. Vertical profiles of peat pore water chemistry in a northern peatland reveal dynamic element cycles. Terrestrial Ecosystem Science/Subsurface Biogeochemical Research (TES/SBR) PI meeting, Potomac, MD, May 2014. Poster presentation.

Vache, K.B., C.R. Jackson, M. Bitew, J. Blake, J.J. McDonnell, and **N.A. Griffiths**. Potential impacts of intensive cellulosic biofuel production on water quality and quantity in the Upper Coast Plain. AGU fall meeting, San Francisco, CA, December 2013. Poster presentation.

**Griffiths, N.A.**, and S.D. Sebestyen. Spatial and temporal variation in peat pore water chemistry of a northern peatland: Reference conditions of a large-scale climate change experiment (SPRUCE). ESA annual meeting, Minneapolis, MN, August 2013. Oral presentation.

Hanson, P.J., C. Barbier, J.S. Riggs, R.K. Kolka, S.D. Sebestyen, **N.A. Griffiths**, C.M. Iversen, J.M. Warren, D.J. Weston, and R.J. Norby. Whole-ecosystem warming and CO<sub>2</sub> manipulation to assess ombrotrophic bog responses to hypothetical future environments. ESA annual meeting, Minneapolis, MN, August 2013. Oral presentation.

Langholtz, M.H., **N.A. Griffiths**, C.R. Jackson, J.J. McDonnell, and J.I. Blake. Short-rotation woody biomass sustainability. Bioenergy Technologies Office 2013 Peer Review Meeting: Sustainability Platform, Alexandria, VA, May 2013. Oral presentation co-presented with C.R. Jackson.

**Griffiths, N.A.**, and S.D. Sebestyen. Spatial and temporal variation in peat pore water chemistry of a northern peatland: reference conditions of a large-scale climate change experiment (SPRUCE). TES/SBR PI meeting, Potomac, MD, May 2013. Poster presentation.

**Griffiths, N.A.**, B.J. Roberts, W.R. Hill, and P.J. Mulholland. Nine years of continuous measurements reveal short- and long-term controls on ecosystem metabolism in Walker Branch, a forested headwater stream. SFS conference, Jacksonville, FL, May 2013. Poster presentation.

**Griffiths, N.A.**, P.J. Mulholland, C.R. Jackson, J.J. McDonnell, J.I. Blake, E. Du, J. Klaus, and M.H. Langholtz. Biogeochemistry of forested watersheds in the Southeastern U.S. prior to conversion to short-rotation pine for bioenergy. AGU fall meeting, San Francisco, CA, December 2012. Poster presentation.

- Jackson, C.R., E. Du, J. Klaus, **N.A. Griffiths**, J.J. McDonnell, and J.I. Blake. Whole hillslope irrigation reveals differential interflow behavior of dye tracers, conservative solutes and nutrients. AGU fall meeting, San Francisco, CA, December 2012. Poster presentation.
- Du, E., C.R. Jackson, J.I. Blake, **N.A. Griffiths**, J. Klaus, J.J. McDonnell, K. Vache, and M.H. Langholtz. Modeling water quality within biofuel production landscapes: integrating hillslope flow paths, deep groundwater dynamics, riparian groundwater interactions, and end-member chemistry. AGU fall meeting, San Francisco, CA, December 2012. Poster presentation.
- Blake, J.I., C.R. Jackson, **N.A. Griffiths**, J. Klaus, E. Du, K.B. Vache, and J.J. McDonnell. Water quality within biofuel production landscape: Integrating flow paths, residence time distribution and mixing dynamics in the streamside management zone. AGU fall meeting, San Francisco, CA, December 2012. Poster presentation.
- Kolka, R., P. Hanson, C. Iversen, S. Sebestyen, R. Norby, B. Palik, P. Thornton, J. Warren, S. Wullschleger, **N.A. Griffiths**, and L. Hook. 2012. Spruce-Peatland Responses Under Climatic and Environmental change: an *in situ* warming by CO<sub>2</sub> manipulation of a forested bog in northern Minnesota. Soil Science Society of America annual meeting, Cincinnati, OH, October 2012. Oral presentation.
- Griffiths, N.A.**, S.D. Tiegs, and P.J. Mulholland. Organic matter decomposition along a temperature gradient in a forested headwater stream. ESA annual meeting, Portland, OR, August 2012. Poster presentation.
- Iversen, C.M., P.J. Hanson, J. Childs, R.J. Norby, R.K. Kolka, C. Barbier, G. Bisht, **N.A. Griffiths**, L.A. Hook, B. Palik, C.W. Schadt, S.D. Sebestyen, J.M. Steinweg, W.K. Thomas, P.E. Thornton, J.M. Warren, D.J. Weston, and S.D. Wullschleger SD. Spruce Peatland Responses Under Climatic and Environmental change: An *in situ* warming by CO<sub>2</sub> manipulation of a peatland ecosystem. Ninth INTECOL wetlands conference, Orlando, FL, June 2012. Oral presentation.
- Griffiths, N.A.**, L.T. Johnson, and P.J. Mulholland. Influence of dual nitrogen and phosphorus additions on nutrient uptake and saturation kinetics in a forested headwater stream. SFS conference, Louisville, KY, May 2012. Oral presentation.
- Martí, E., J.L. Tank, T. Riis, P.J. Mulholland, W.K. Dodds, M.R. Whiles, B.M. Cheever, S.M. Collins, C.L. Crenshaw, T.A. Cowl, **N.A. Griffiths**, N.B. Grimm, S.K. Hamilton, S.L. Johnson, W.H. McDowell, E.J. Rosi-Marshall, K.S. Simon, S.A. Thomas, D. von Schiller, J.R. Webster, and W.M. Wollheim. Unpacking the black box of in-stream assimilatory nitrogen uptake: insights from <sup>15</sup>N-ammonium tracer additions conducted in different biogeoclimatic regions. SFS conference, Louisville, KY, May 2012. Oral presentation.
- Davis, R.T., J.L. Tank, U.M. Mahl, S.S. Roley, and **N.A. Griffiths**. The influence of floodplain restoration on whole-stream metabolism in four midwestern agricultural streams. SFS conference, Louisville, KY, May 2012. Oral presentation.
- Follstad Shah, J., M. Ardón, J.S. Kominoski, W.K. Dodds, M.O. Gessner, **N.A. Griffiths**, S.L. Johnson, A. Lecerf, C.J. LeRoy, D.W. Manning, A.D. Rosemond, C.M. Swan, J.R. Webster, and L.H. Zeglin. MASS LOSS: a quantitative synthesis of leaf decomposition in streams and rivers. SFS conference, Louisville, KY, May 2012. Oral presentation.
- Griffiths, N.A.**, and P.J. Mulholland. Seasonal variability in nitrate and phosphate uptake kinetics in a forested headwater stream using pulse nutrient additions. AGU fall meeting, San Francisco, CA, December 2011. Poster presentation.



- Griffiths, N.A.**, and C.R. Jackson. What do we need to learn about global change effects in ecosystem science? Global Change Effects on Aquatic Systems: A symposium inspired by the work of Patrick J. Mulholland, Oak Ridge, TN, November 2011. Oral presentation.
- Griffiths, N.A.**, P.J. Mulholland, C.R. Jackson, and C.T. Garten. Biogeochemistry of forested watersheds in the Upper Coastal Plain of the Southeastern U.S. prior to conversion to short-rotation pine for bioenergy. Gordon Research Conference in Catchment Sciences, Lewiston, ME, July 2011. Poster presentation.
- Sebestyen, S.D., P.J. Hanson, R.K. Kolka, R.J. Norby, B. Palik, S.D. Wullschleger, C.T. Garten, P.E. Thornton, **N.A. Griffiths**, P.J. Mulholland, D.E. Todd, C. Iversen, J. Warren, and L. Hook. An overview of the SPRUCE project, a large-scale study of increased temperature and carbon dioxide effects on a northern peatland. Gordon Research Conference in Catchment Sciences, Lewiston, ME, July 2011. Poster presentation.
- Griffiths, N.A.**, and P.J. Mulholland. Quantifying seasonal variability in nutrient uptake kinetics in a forested headwater stream using pulse nutrient additions. North American Benthological Society (NABS) conference, Providence, RI, May 2011. Oral presentation.
- Roley, S.S., J.L. Tank, **N.A. Griffiths**, M.L. Stephen, L.T. Johnson, and J.J. Beaulieu. The influence of floodplain restoration on whole-stream metabolism in an agricultural stream. NABS conference, Providence, RI, May 2011. Oral presentation.
- Mulholland, P.J., **N.A. Griffiths**, C.R. Jackson, J.J. McDonnell, and J.I. Blake. Short-rotation woody biomass sustainability. Office of Biomass Program 2011 Peer Review Meeting: Feedstocks Platform, Annapolis, MD, April 2011. Oral presentation co-presented with C.R. Jackson.
- Dale, V.H., **N.A. Griffiths**, and M.R. Hilliard. Feedstock and bioenergy sustainability at a watershed scale. Office of Biomass Program 2011 Peer Review Meeting: Feedstocks Platform, Annapolis, MD, April 2011. Oral presentation co-presented with V.H. Dale.
- Mulholland, P.J., S.D. Sebestyen, **N.A. Griffiths**, P.J. Hanson, J. Warren, and R.K. Kolka. Water research within the SPRUCE experiment, a large-scale study of climate change effects on a northern peatland. AGU fall meeting, San Francisco, CA, December 2010. Poster presentation.
- Griffiths, N.A.**, J.L. Tank, S.S. Roley, and M.L. Stephen. Comparison of detrital decomposition in floodplain and main channel habitats of restored agricultural streams. North American Benthological Society (NABS) and American Society of Limnology and Oceanography (ASLO) joint conference, Santa Fe, NM, June 2010. Oral presentation.
- Griffiths, N.A.**, J.L. Tank, E.J. Rosi-Marshall, T.V. Royer, M.R. Whiles, R. Conley, T.C. Frauendorf, and J. Kang. Transport and degradation of Cry1Ab protein derived from genetically-engineered maize crop byproducts in agricultural streams. NABS conference, Grand Rapids, MI, May 2009. Oral presentation.
- Griffiths, N.A.**, J.L. Tank, J.J. Beaulieu, L.T. Johnson, S.S. Roley, and M.L. Stephen. Effect of storms on agricultural stream metabolism. ASLO conference, St. John's, NL, June 2008. Oral presentation.
- Royer, T.V., T.J. Warrner, **N.A. Griffiths**, J.L. Tank, E.J. Rosi-Marshall, and M.R. Whiles. Biogeochemistry of dissolved organic carbon in headwater agricultural streams. ASLO conference, St. John's, NL, June 2008. Oral presentation.

**Griffiths, N.A.**, J.L. Tank, E.J. Rosi-Marshall, T.V. Royer, M.R. Whiles, J.J. Beaulieu, L.T. Johnson, S.S. Roley, and M.L. Stephen. Inter- and intra-system variation in whole-stream metabolism within an agricultural landscape. NABS conference, Salt Lake City, UT, May 2008. Oral presentation.

**Griffiths, N.A.**, J.L. Tank., T.J. Warner, T.V. Royer, T.C. Frauendorf, C.P. Chambers, J.D. Pokelsek, M.A. Evans-White, E.J. Rosi-Marshall, and M.R. Whiles. The contribution of corn detritus to metabolism and carbon cycling in Midwestern agricultural streams. NABS conference, Columbia, SC, June 2007. Oral presentation.

Frauendorf, T.C., **N.A. Griffiths**, J.L. Tank, M.A. Evans-White, E.J. Rosi-Marshall, T.V. Royer, and M.R. Whiles. Bt leaching from corn detritus and the effects on stream sediment respiration. NABS conference, Columbia, SC, June 2007. Poster presentation.

Chambers, C.P., M.R. Whiles, **N.A. Griffiths**, M.A. Evans-White, E.J. Rosi-Marshall, J.L. Tank, and T. V. Royer. Assessing the impacts of transgenic Bt corn detritus on macroinvertebrate communities in agricultural streams. NABS conference, Columbia, SC, June 2007. Oral presentation.

Warner, T.J., T.V. Royer, **N.A. Griffiths**, M.A. Evans-White, J.L. Tank, E.J. Rosi-Marshall, and M.R. Whiles. Biogeochemistry of dissolved organic carbon in Midwestern agricultural streams. NABS conference, Columbia, SC, June 2007. Poster presentation.

Pokelsek, J.D., E.J. Rosi-Marshall, C.P. Chambers, **N.A. Griffiths**, M.A. Evans-White, J.L. Tank, M.R. Whiles, and T.V. Royer. Effects of Bt corn pollen on caddisfly growth rates in Midwestern agricultural streams. NABS conference, Columbia, SC, June 2007. Oral presentation.

Rosi-Marshall, E.J., J.L. Tank, M. Evans-White, T.V. Royer, M.R. Whiles, J. Pokelsek, **N.A. Griffiths**, and C.P. Chambers. Crop residues and stream carbon budgets: examining the ecological significance of allochthonous carbon in Midwestern agricultural streams. ASLO conference, Santa Fe, NM, February 2007. Oral presentation.

**Griffiths, N.A.**, C.P. Chambers, J.L. Tank, M.A. Evans-White, E.J. Rosi-Marshall, T.V. Royer, and M.R. Whiles. Microbial respiration and decomposition of corn detritus in Midwestern agricultural streams. NABS conference, Anchorage, AK, June 2006. Oral presentation.

Evans-White, M.A., J.L. Tank, M.R. Whiles, **N.A. Griffiths**, E.J. Rosi-Marshall, and T.V. Royer. The role of allochthonous carbon in the food webs of agricultural streams. NABS conference, Anchorage, AK, June 2006. Oral presentation.

**Griffiths, N.A.**, L.C. Taylor, M.J. Bernot, and J.L. Tank. Effects of antibiotic addition on nutrient limitation in streams. NABS conference, Vancouver, BC, June 2004. Poster presentation.

### **Special Courses/Workshops/Working Groups:**

2020 Introduction to R Workshop (virtual), hosted by Lake Lacawac Sanctuary Field Station.

2019 ORNL's Management Bootcamp.

2016 Selected participant for the Time Series Analysis Working Group, hosted by the Stream Resiliency Research Coordination Network. Lead PIs: J. Jones, M. Whiles, and C. Ruffing.

2015 Continental-scale analysis of stream metabolism working group meeting (USGS Powell Center). Lead PIs: E. Stets, E. Stanley, J. Read, R. Hall.

- 2014 Incorporating Bioenergy into Sustainable Landscape Designs workshop in New Bern, NC.
- 2013 Stream ecosystem responses to nutrient enrichment at multiple trophic levels working group meeting. Lead PIs: Drs. L. Zeglin, M. Ardón, B. Bixby, W.K. Dodds, S. Johnson, and A.D. Rosemond.
- 2011 Meta-analysis and Synthesis of Leaf Decomposition in Streams working group. Lead PIs: Drs. J.J. Follstad-Shah, J.S. Kominoski, and M. Ardón.
- 2011 <sup>15</sup>N food web modeling working group. Lead PIs: Drs. W.K. Dodds and M.R. Whiles.
- 2010 Leaf litter decomposition in streams course, University of Coimbra, Portugal.
- 2009 American Institute of Biological Sciences (AIBS) science outreach and policy workshop.
- 2008 ESRI course: Introduction to Geographic Information System (GIS).
- 2008 Communications Partnership for Science and the Sea (COMPASS) training workshop.
- 2006 Selected participant for the Fundamentals of Ecosystem Ecology course, Cary Institute of Ecosystem Studies, Millbrook, NY.

**Memberships in Professional Associations:**

American Geophysical Union  
Society for Freshwater Science, formerly the North American Benthological Society

**Research Visibility:**

- Natalie's research and her path towards becoming a scientist was highlighted in ORNL's Inspired By Science series: <https://www.ornl.gov/news/fielding-scientific-questions-natalie-griffiths>
- Natalie's passion for mentoring was highlighted by the Oak Ridge Institute for Science and Education: <https://orise.ornl.gov/ornl/experiences/mentors/griffiths.html>
- Natalie was interviewed by Nature for a story on the SPRUCE project: <https://www.nature.com/news/minnesota-bog-study-turns-up-the-heat-on-peat-1.18235>

**Outreach Activities:**

- 2019 Presentation to the ARC/ORAU Middle School Summer Science Academy on water quality.
- 2019 Presentation to the Southfork Watershed Alliance on using drones for water quality research.
- 2017 Presentation to the Emory River Watershed Alliance on research in Walker Branch Watershed.

## **Mentoring and Teaching**

### **Students and Technicians Mentored/Committees Served On:**

- 2017-present Samuel Bickley (PhD), Auburn University, committee member (2017-present).  
Daniel Isenberg (MS), Troy University, committee member (2017-present).
- 2015-present Caitlin O'Neill, Melissa Dunham, Tyler Johns, Sarah Shelley, Cameron Toerner, Joseph Foust, Eleanor Henson, Gabrielle McAllister, Molly Landon. Mentored through the Oak Ridge Associated Universities (ORAU) Science Undergraduate Laboratory Internship (SULI), Higher Education Research Experiences (HERE), Post-Bachelors, and Next Generation STEM Internship Program (NEXTGENS), ORNL. Research associated with various DOE projects.
- 2013-present Keith Oleheiser, ORAU HERE and Post-Bachelors position, and XCEL engineering, ORNL. Hydrology and biogeochemistry technician for the SPRUCE project.
- 2006-2009 Therese Frauendorf, Jennifer Kang. Undergraduate Research Theses, UND. Studied the fate of genetically engineered corn in stream ecosystems. Frauendorf presented research at the NABS conference, Columbia, SC, June 2007, and is a co-author on 3 publications.

### **Teaching Experience:**

- 2011-2016 Guest lecturer for General Ecology (2011), Ecosystem Ecology (2012), and Core Ecology for graduate students (2016), University of Tennessee.
- 2009 Co-instructor for Aquatic Insects with Dr. R.A. Hellenthal, UND.
- 2008 Co-instructor for Aquatic Ecosystem Ecology with Dr. G.A. Lamberti to graduate students in the NSF IGERT program (taught at UND's Environmental Research Center).
- 2006-2008 Teaching Assistant for General Ecology (2006), Biostatistics (2006), and Aquatic Ecology (2008), UND.
- 2004-2005 Teaching Assistant for Animal Physiology, U of T.

### **Teaching Awards and Certificates:**

- 2009 Certification of Teaching Excellence from the Kaneb Center for Teaching and Learning and the Department of Biological Sciences, UND.
- 2009 Kaneb Center Outstanding Graduate Student Teacher Award for Teaching Excellence, UND.

### **Teaching Courses/Workshops Attended:**

- 2009 Designing and Teaching Your First Biology or Chemistry course, UND.
- 2008 Innovative Teaching and Active Learning: Principles, Practice, and Materials. Ecological Society of America annual meeting, Milwaukee, WI.

## **Professional Service**

- Subject Matter Editor under the “Freshwater Ecology” subject track for *Ecosphere* (2020-present).
- Reviewer for *Applied Geochemistry*; *Applied Soil Ecology*; *Aquatic Sciences*; *Austral Ecology*; *Biogeochemistry*; *Biological Reviews*; *Ecological Applications*; *Ecological Modelling*; *Ecological Monographs*; *Ecology*; *Ecology Letters*; *Ecosphere*; *Ecosystems*; *Forest Ecology and Management*; *Freshwater Biology*; *Freshwater Science*; *Frontiers in Ecology and the Environment*; *Fundamental and Applied Limnology*; *Geophysical Research Letters*; *Hydrobiologia*; *Hydrological Processes*; *Inland Waters*; *International Review of Hydrobiology*; *JGR-Biogeosciences*; *Journal of the American Water Resources Association*; *Journal of Environmental Quality*; *Journal of Forest Research*; *Journal of Freshwater Ecology*; *Journal of Hydrology*; *Journal of the North American Benthological Society*; *Landscape Ecology*; *Limnology and Oceanography*; *Marine and Freshwater Research*; *Nature Communications*; *New Phytologist*; *Science of the Total Environment*; *Water*; *Water, Air, and Soil Pollution* (2008-present).
- Reviewer for Department of Energy’s Office of Biological and Environmental Research, Environmental System Sciences proposals (2015, 2018, 2019, 2020), National Science Foundation Division of Environmental Biology proposal (2016).
- Member of ORNL’s SEED Review Committee (2019-present).
- Society for Freshwater Science (SFS) Financial Committee representative (2019-present), Board of Directors representative (Early Career/Young Professional elected position; 2015-2018), SFS Early Career (EC) committee chair and co-chair (2016-2018), SFS EC committee (2016-2019), NABS (now SFS) Executive Committee graduate student representative (2010-2011), NABS Graduate Resources Committee (GRC) Chair (2009-2010), J-NABS Strategic Planning Committee graduate representative (2008-2009), GRC student workshop organizer (2008-2009), GRC live auction committee (2007-2008).
- Member of the Program Committee for the Interagency Conference on Research in Watersheds (ICRW) in Charleston, SC in March 2015 (2014-2015).
- Contributing member to the Faculty of 1000 Marine and Freshwater Ecology section (2008-2012).
- Member of the National Ecological Observatory Network (NEON) STReam Experimental Observation Network (STREON) working group (2011-2015).
- UND Biology Graduate Student Organization (BGSO) volunteer activities coordinator (2009-2010), BGSO graduate recruitment weekend coordinator (2008-2009).
- Graduate representative on UND’s College of Science Advisory Council (2008-2009), Graduate Co-chair for UND’s Department of Biological Sciences faculty search (2010).
- Undergraduate representative on the Biological Sciences Departmental Reorganization Group, U of T (2004-2005).
- Science judge for the Tennessee Science Bowl (2011-2015), judge for UND’s Graduate Research Symposium (2008) and numerous science fairs around northern Indiana (grades 1-8), including the northern Indiana Regional Science Fair (2006-2010).