EVAN S. KANE

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1. PERSONAL DATA:

Education:

Ph.D., Interdisciplinary, Forest Ecology (2006) University of Alaska, Fairbanks
Dissertation title: *Mechanisms of Soil Carbon Stabilization in Black Spruce Forests of Interior Alaska: Soil Temperature, Soil Water, and Wildfire*

M.S. in Forestry (2001) Michigan Technological University
Thesis title: *Soil CO_2 Efflux Along a Diverse Environmental Gradient in Olympic National Park, Washington*

B.S. in Applied Ecology and Environmental Science (1999) Michigan Technological University
Honor Society; *Magna Cum Laude*

Appointments:

5/17-present	Associate Professor- Michigan Technological University; and Research Scientist- U.S. Forest Service, Northern Research Station, *Climate, Fire, and Carbon Cycle Sciences.*
8/12-5/17	Assistant Professor- Michigan Technological University; and Research Scientist- U.S. Forest Service, Northern Research Station, *Climate, Fire, and Carbon Cycle Sciences.*
6/09-8/12	Research Assistant Professor- Michigan Technological University; and Research Scientist- U.S. Forest Service, Northern Research Station, *Climate, Fire, and Carbon Cycle Sciences.*
4/07-6/09	Center for Water Sciences Research Fellow, Michigan State Univ. Project title: *Wetland soils as harbors of mercury: the vulnerability of mercury leaching export to streams under changing land-use and climatic regimes*.
4/06-4/07	Post-doctoral research associate, Dept. of Plant Biology, Michigan State Univ. Carbon dynamics in high-latitude soils underlain with seasonal ice.
9/03-9/05	Inland Northwest Research Alliance Fellow (U.S. Dept. of Energy); Subsurface Science Graduate Research Program.
5/01-7/02	Research Associate in the Ecosystem Science Center at Mich. Tech. Univ. Collected, analyzed and insured quality control of data pertaining to ecosystem-level carbon dynamics and soil carbon analysis. Coordinated and instructed undergraduate field workers.
1996, ’98, ’99	Ecosystem Delineator in the Hiawatha National Forest (MI). Delineated ecosystems by identification of soils and vegetation present through use of a Land Type Association classification system, both in the field and with extensive aerial photo interpretation. Independently contracted through the Forest Service.

Professional membership:
Ecological Society of America (since 2000).
American Geophysical Union (since 2004).
Union of Concerned Scientists (since 2005).
Soil Science Society of American (since 2010)
Graduate student representative of the UAF Long Term Ecological Research (LTER) site (2002-2006).

2. RESEARCH PUBLICATIONS (asterisk "*" denotes student mentee):

Refereed Journal Publications (h-index = 23; *Web of Science*, May 2021):

2021

(78) Krause L, McCullough KJ, **Kane ES**, Kolka RK, Chimner RA, Lilleskov EA. 2021. Impacts of historical ditching on peat volume and carbon in northern Minnesota USA peatlands. Journal of Environmental Management, https://doi.org/10.1016/j.jenvman.2021.113090.

(77) Albano LJ, Turetsky MR, Mack MC, **Kane ES**. 2021. Deep roots of *Carex aquatilis* have greater ammonium uptake capacity than shallow roots in peatlands following permafrost thaw. Plant and Soil, https://doi.org/10.1007/s11104-021-04978-x.

(76) Rupp DL, Lamit LJ, Techtmann SM, **Kane ES**, Lilleskov EA, Turetsky MR. 2021. The rhizosphere responds: rich fen peat and root microbial ecology after long-term water table manipulation. Applied and Environmental Microbiology, DOI: 10.1128/AEM.00241-21.

(75) Richard RP, **Kane ES**, Bronson DR, MacLean AL, Kolka RK. 2021. Plant communities and landform relationships delineate components of soil complexes subject to whole-tree harvest restriction. Soil Science Society of America Journal, https://doi.org/10.1002/saj2.20234.

(74) **Kane ES**, Dieleman CM, *Rupp D, Wyatt KH, Rober AR, Turetsky MR. 2021. Consequences of Increased Variation in Peatland Hydrology for Carbon Storage: Legacy Effects of Drought and Flood in a Boreal Fen Ecosystem. Frontiers in Earth Science, https://doi.org/10.3389/feart.2020.577746.

(73) Normand AE, Turner BL, Lamit LJ, Smith AN, Baiser B, Clark MW, Hazlett C, **Kane ES**, Lilleskov EA, Long JR, Grover SP, Reddy KR. 2021. Organic matter chemistry drives carbon dioxide production of peatlands. Geophysical Research Letters, DOI: 10.1029/2021GL093392.

(72) Lamit LJ, Romanowicz KJ, Potvin LR, Lennon JT, Tringe SG, Chimner RA, Kolka RK, **Kane ES**, Lilleskov EA. 2021. Peatland microbial community responses to plant functional group and drought are depth-dependent. Molecular Ecology, DOI: 10.1111/mec.16125.

(71) *Krause L, McCullough KJ, **Kane ES**, Kolka RK, Chimner RA, Lilleskov EA. 2021. Impacts of historical ditching on peat volume and carbon in northern Minnesota USA peatlands. Journal of Environmental Management, https://doi.org/10.1016/j.jenvman.2021.113090.

(70) *Albano LJ, Turetsky MR, Mack MC, **Kane ES**. 2021. Deep roots of *Carex aquatilis* have greater ammonium uptake capacity than shallow roots in peatlands following permafrost thaw. Plant and Soil, https://doi.org/10.1007/s11104-021-04978-x.

(69) *Rupp DL, Lamit LJ, Techtmann SM, **Kane ES**, Lilleskov EA, Turetsky MR. 2021. The rhizosphere responds: rich fen peat and root microbial ecology after long-term water table manipulation. Applied and Environmental Microbiology, DOI: 10.1128/AEM.00241-21.

(68) *Richard RP, **Kane ES**, Bronson DR, MacLean AL, Kolka RK. 2021. Plant communities and landform relationships delineate components of soil complexes subject to whole-tree harvest restriction. Soil Science Society of America Journal, https://doi.org/10.1002/saj2.20234.

(67) **Kane ES**, Dieleman CM, *Rupp D, Wyatt KH, Rober AR, Turetsky MR. 2021. Consequences of Increased Variation in Peatland Hydrology for Carbon Storage: Legacy Effects of Drought and Flood in a Boreal Fen Ecosystem. Frontiers in Earth Science, https://doi.org/10.3389/feart.2020.577746.

2020 (5)

(66) Walker XJ, Rogers BM, Veraverbeke S, Johnstone JF, Baltzer JL, Barrett K, Bourgeau-Chavez L, Day NJ, de Groot WJ, Dieleman CM, Goetz S, Hoy E, Jenkins LK, **Kane ES**, Parisien M-A, Potter S, Schuur EAG, Turetsky M, Whitman E, Mack M. 2020. Fuel availability not fire weather controls boreal wildfire severity and carbon emissions. Nature- Climate Change, https://doi.org/10.1038/s41558-020-00920-8.

(65) Meingast KM, **Kane ES**, Coble AA, Marcarelli AM, Toczydlowski D. 2020. Climate, snowmelt dynamics and atmospheric deposition interact to control dissolved organic carbon export from a northern forest stream over 26 years. Environmental Research Letters https://iopscience.iop.org/article/10.1088/1748-9326/ab9c4e.

(64) Walker XJ, Baltzer JL, Bourgeau-Chavez L, Day NJ, Dieleman CM, Johnstone JF, **Kane ES**, Rogers BM, Turetsky MR, Veraverbeke S, Mack MC. 2020. Patterns of Ecosystem Structure and Wildfire Carbon Combustion Across Six Ecoregions of the North American Boreal Forest. Frontiers in Forests and Global Change, https://doi.org/10.3389/ffgc.2020.00087.

(63) Euskirchen ES, **Kane ES**, Edgar CW, Turetsky MR. 2020. When the Source of Flooding Matters: Divergent Responses in Carbon Fluxes in an Alaskan Rich Fen to Two Types of Inundation. Ecosystems, https://doi.org/10.1007/s10021-019-00460-z.

(62) Walker XJ, Rogers BM, Veraverbeke S, Johnstone JF, Baltzer JL, Barrett K, Bourgeau-Chavez L, Day NJ, de Groot WJ, Dieleman CM, Goetz S, Hoy E, Jenkins LK, **Kane ES**, Parisien M-A, Potter S, Schuur EAG, Turetsky M, Whitman E, Mack M. 2020. Fuel availability not fire weather controls boreal wildfire severity and carbon emissions. Nature- Climate Change, https://doi.org/10.1038/s41558-020-00920-8.

(61) *Meingast KM, **Kane ES**, Coble AA, Marcarelli AM, Toczydlowski D. 2020. Climate, snowmelt dynamics and atmospheric deposition interact to control dissolved organic carbon export from a northern forest stream over 26 years. Environmental Research Letters https://iopscience.iop.org/article/10.1088/1748-9326/ab9c4e.

(60) *Meingast KM, Grunert BK, Green SA, **Kane ES**, Khademimoshgenani N. 2020. Insights on Dissolved Organic Matter Production Revealed by Removal of Charge-Transfer Interactions in Senescent Leaf Leachates. Water, 12: 2356. doi:10.3390/w12092356.

(59) Walker XJ, Baltzer JL, Bourgeau-Chavez L, Day NJ, Dieleman CM, Johnstone JF, **Kane ES**, Rogers BM, Turetsky MR, Veraverbeke S, Mack MC. 2020. Patterns of Ecosystem Structure and Wildfire Carbon

Combustion Across Six Ecoregions of the North American Boreal Forest. Frontiers in Forests and Global Change, https://doi.org/10.3389/ffgc.2020.00087.

(58) Euskirchen ES, **Kane ES**, Edgar CW, Turetsky MR. 2020. When the Source of Flooding Matters: Divergent Responses in Carbon Fluxes in an Alaskan Rich Fen to Two Types of Inundation. Ecosystems, https://doi.org/10.1007/s10021-019-00460-z.

2019 (8)

(57) **Kane ES**, *Veverica TJ, Tfaily MM, Lilleskov EA, *Meingast KM, Kolka RK, *Daniels AL, Chimner RA. 2019. Reduction-oxidation potential and dissolved organic matter composition in northern peat soil: interactive controls of water table position and plant functional groups. Journal of Geophysical Research-Biogeosciences, https://doi.org/10.1029/2019JG005339.

(56) *Rupp DR, **Kane ES**, Dieleman C, Keller JK, Turetsky MR. 2019. Plant functional group effects on peat carbon cycling in a boreal rich fen. Biogeochemistry, https://doi.org/10.1007/s10533-019-00590-5.

(55) *McPartland MY, Falkowski MJ, Reinhardt JR, **Kane ES**, Kolka R, Turetsky MR, Douglas TA, Anderson J, Edwards JD, Palik B, Montgomery RA. 2019. Characterizing Boreal Peatland Plant Composition and Species Diversity with Hyperspectral Remote Sensing. Remote Sensing. doi:10.3390/rs11141685.

(54) Haynes KM, **Kane ES**, Potvin L, Lilleskov E, Kolka RK, Mitchell CPJ. 2019. Impacts of experimental alteration of water table regime and vascular plant community composition on peat mercury profiles and methylmercury production. Science of the Total Environment, https://doi.org/10.1016/j.scitotenv.2019.05.072.

(53) *Coble AA, Marcarelli AM, **Kane** ES. 2019. Year-round measurements reveal seasonal drivers of nutrient uptake in a snowmelt-driven headwater stream. Freshwater Science, DOI: 10.1086/701733.

(52) Herndon EM, Kinsman-Costello L, Duroe KA, Mills J, **Kane ES**, Sebestyen SD, Thompson AA, Wullschleger SD. 2019. Iron (oxyhydr)oxides serve as phosphate traps in tundra and boreal peat soils. Journal of Geophysical Research- Biogeosciences. doi.org/10.1029/2018JG004776.

(51) *McPartland MY, **Kane ES**, Falkowski MJ, Kolka R, Turetsky MR, Palik B, Montgomery RA. 2019. The response of boreal peatland community composition and NDVI to hydrologic change, warming, and elevated carbon dioxide. Global Change Biology, DOI: 10.1111/gcb.14465.

(50) Marcarelli AM, *Coble AS, *Meingast KM, **Kane ES**, Brooks C, Buffam I, Green S, Huckins C, Toczydlowski D, Stottlemyer R. 2019. Of small streams and Great Lakes: integrating tributaries to understand the ecology and biogeochemistry of Lake Superior. Journal of the American Water Resources Association, 1-17, DOI: 10.1111/1752-1688.12695.

2018 (2)

(49) *Richard R, Potvin LR, **Kane ES**, Handler S, Smith P, Peterson D. 2018. Biochar and wood ash amendments for forestry in the Lake States: field report and initial results. Journal of Forestry, 116(3):222–227.

(48) *Houle GP, **Kane ES**, Kasischke ES, *Gibson CM, Turetsky MR. 2018. Recovery of carbon pools a decade after wildfire in black spruce forests of interior Alaska: effects of soil texture and landscape position. Canadian Journal of Forest Research, 48(1): 1-10.

2017 (11)

(47) *Acet M, Jurgensen MF, **Kane ES**, Gailing O. 2017. Genet diversity, genetic structure, and trait expression of trembling aspen (Populus tremuloides Michx.) after clear-cut harvesting and post-harvest soil treatments. Botany, 95(8): 785-798.

(46) *Mosier SL, **Kane ES**, Richter DL, Lilleskov EA, Jurgensen MF, Burton AJ, Resh SC. 2017. Interactive effects of climate change and fungal communities on wood-derived carbon in forest soils. Soil Biology and Biochemistry, 115: 297-309.

(45) Lamit LJ, *Romanowicz KJ, Potvin LR, Rivers AR, Singh K, Lennon JT, Tringe SG, **Kane ES**, Lilleskov EA. 2017. Patterns and drivers of fungal community depth stratification in Sphagnum peat. FEMS Microbiology Ecology, 93(7): DOI: 10.1093/femsec/fix082.

(44) Hribljan JA, **Kane ES**, Chimner RA. 2017. Implications of Altered Hydrology for Substrate Quality and Trace Gas Production in a Poor Fen Peatland. Soil Science Society of America Journal, 81(3): 633-646.

(43) Bump JK, Bergman BG, Schrank AJ, Marcarelli AM, **Kane ES**, Risch AC, Schutz M. 2017. Nutrient release from moose bioturbation in aquatic ecosystems. Oikos, 126(3): 389-397.

(42) Haynes KM, **Kane ES**, Potvin L, Lilleskov E, Kolka RK, Mitchell CPJ. 2017. Mobility and transport of mercury and methylmercury in peat as a function of changes in water table regime and plant functional groups, Global Biogeochem. Cycles, 31, doi:10.1002/2016GB005471.

(41) Haynes K, **Kane ES**, Lilleskov EA, Kolka RK, Mitchell C. 2017. Gaseous Mercury Fluxes in Peatlands and the Potential Influence of Climate Change. Atmospheric Environment, 154: 247-259.

(40) Wiedermann M, **Kane** ES, Potvin LR, Lilleskov E. 2017. Interactive plant functional group and water table effects on decomposition and extracellular enzyme activity in Sphagnum peatlands. Soil Biology and Biochemistry, 108: 1-8.

(39) Banscota A, Falkowski MJ, Smith AMS, **Kane** ES, Meingast KM, Bourgeau-Chavez LL, Miller ME, French NH. 2017. IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, 55(3): 1526-1536.

(38) Olefeltd D, Euskirchen SE, Harden J, **Kane** ES, McGuire AD, Waldrop M, Turetsky MR. 2017. Greenhouse gas fluxes and their cumulative response to inter-annual variability and experimental manipulation of the water table position in a boreal fen. Global Change Biology, DOI: 10.1111/gcb.13612.

(37) Wiedermann M, **Kane** ES, *Veverica T, Lilleskov E. 2017. Are colorimetric assays appropriate for measuring phenol oxidase activity in peat soils? Soil Biology and Biochemistry, 105: 108-110.

2016 (6)

(36) *Coble AA, Huckins CJ, **Kane** ES, Marcarelli AM. 2016. Uptake of ammonium and soluble reactive phosphorus in forested streams: influence of dissolved organic matter composition. Biogeochemistry, 131(3): 355–372.

(35) *Gibson CM, Turetsky MR, Cottenie K, **Kane** ES, *Houle G, Kasischke ES. 2016. Variation in plant community composition and vegetation carbon pools a decade following a severe fire season in interior Alaska. Journal of Vegetation Science, Doi: 10.1111/jvs.12443.

(34) Schädel C, Bader MKF, Schuur EAG, Bracho R, Capek P, De Baets S, Diakova K, Ernakovich J, Estop-Aragones C, Graham DE, Hartley IP, Iversen CM, **Kane** ES, and 13 others. 2016. Potential carbon emissions dominated by carbon dioxide from thawed permafrost soils. Nature- Climate Change, doi:10.1038/nclimate3054.

(33) *Coble AA, Marcarelli AM, **Kane** ES, Toczydlowski D, Stottlemyer R. 2016. Temporal patterns of dissolved organic matter biodegradability are similar across three rivers of varying size. Journal of Geophysical Research- Biogeosciences, 121, doi:10.1002/2015JG003218.

(32) *Veverica T, **Kane** ES, Marcarelli AM, Green SA. 2016. Ionic liquid extraction unveils previously occluded humic-bound iron in peat soil pore water. Soil Science Society of America Journal, doi: 10.2136/sssaj2015.10.0377.

(31) Santin CA, Doerr SH, **Kane** ES, Masiello CA, Ohlson M, De La Rosa JM, Preston CM, Dittmar T. 2016. Towards a global assessment of pyrogenic carbon from vegetation fires. Global Change Biology, 22: 76-91.

2015 (3)

(30) *Romanowicz KJ, **Kane** ES, Potvin LR, *Daniels AL, Kolka RK, Lilleskov EA. 2015. Understanding drivers of peatland extracellular enzyme activity in the PEATcosm experiment: mixed evidence for enzymic latch hypothesis. Plant and Soil, DOI 10.1007/s11104-015-2746-4.

(29) *Coble AA, Marcarelli AM, **Kane** ES. 2015. Ammonium and glucose amendments stimulate dissolved organic matter mineralization in a Lake Superior tributary. Journal of Great Lakes Research, 41(3): 801-807.

(28) Potvin LR, **Kane** ES, Chimner RA, Kolka RK, Lilleskov EA. 2015. Effects of water table position and plant functional group on plant community, aboveground production, and peat properties in a peatland mesocosm experiment (PEATcosm). Plant and Soil, 387(1-2): 277-294.

2014 (3)

(27) *Meingast KM, Falkowski MJ, **Kane** ES, Potvin LR, Benscoter BW, Smith AMS, Bourgeau-Chavez LL, Miller ME. 2014. Spectral detection of near-surface moisture content and water-table position in northern peatland ecosystems. Remote Sensing of Environment, 152: 536–546.

(26) Hribljan JA, **Kane** ES, Pypker TG, Chimner RA. 2014. The effect of long-term water table manipulations on dissolved organic carbon dynamics in a poor fen peatland. Journal of Geophysical Research – Biogeosciences, 119, doi:10.1002/2013JG002527.

(25) **Kane** ES, Mazzoleni LR, *Kratz CJ, *Hribljan JA, *Johnson CP, Pypker T, Chimner R. 2014. Peat porewater dissolved organic carbon concentration and lability increase with warming: a field temperature manipulation experiment in a poor-fen. Biogeochemistry, DOI 10.1007/s10533-014-9955-4.

2013 (2)

(24) *McConnell NA, Turetsky MR, McGuire AD, **Kane** ES, Waldrop MP, Harden JW. 2013. Controls on ecosystem and root respiration across a permafrost and wetland gradient in interior Alaska. Environmental Research Letters, 8: 045029; doi:10.1088/1748-9326/8/4/045029.

(23) **Kane** ES, *Chivers MR, Turetsky MR, Treat CC, Petersen DG, Waldrop M, Harden JW, McGuire AD. 2013. Response of anaerobic carbon cycling to water table manipulation in an Alaskan rich fen. Soil Biology and Biochemistry, 58: 50-60.

2012

(22) **Kane** ES. 2012. Ecosystem Carbon Storage: Squeezing the Arctic carbon balloon. Nature- Climate Change, 2: 841-842.

(21) Fan Z, McGuire AD, Harden JW, Waddington JM, **Kane** ES. 2012. The response of soil organic carbon of a rich fen peatland in interior Alaska to projected climate change. Global Change Biology, doi: 10.1111/gcb.12041.

(20) *****Veverica TJ, **Kane** ES, Kasischke ES. 2012. Tamarack and black spruce adventitious root patterns are similar in their ability to estimate organic layer depths in northern temperate forests. Canadian Journal of Soil Science, 92: 1-4.

(19) Kasischke ES, Turetsky MR, **Kane** ES. 2012. Effects of trees on the burning of organic layers on permafrost terrain. Forest Ecology and Management, 267: 127-133.

(18) Wyatt KH, Turetsky MR, Rober AR, Giroldo D, **Kane** ES, Stevenson RJ. 2012. Contributions of algae to GPP and DOC production in an Alaskan fen: effects of historical water table manipulations on ecosystem responses to a natural flood. Oecologia, 169(3): 821-832.

2011

(17) Johnson KD, Harden J, McGuire AD, Bliss NB, Bockheim JG, Clark M, Nettleton-Hollingsworth T, Jorgenson MT, **Kane** ES, Mack M, O'Donnell J, Ping C-L, Schuur EAG, Turetsky MR, Valentine DW. 2011. Soil carbon distribution in Alaska in relation to soil-forming factors. Geoderma, 160(3-4):71-84.

(16) Turetsky MR, **Kane** ES, Harden JW, Ottmar KL, Manies KL, Kasischke ES. 2011. Recent acceleration of biomass burning and carbon losses in Alaskan forests and peatlands. Nature- Geoscience, 4:27-31.

2010

(15) **Kane** ES, Turetsky MR, Harden JW, McGuire AD, Waddington JM. 2010. Seasonal ice and hydrologic controls on dissolved organic carbon and nitrogen concentrations in a boreal rich fen. Journal of Geophysical Research – Biogeosciences, doi:10.1029/2010JG001366.

(14) **Kane** ES, Hockaday WC, Turetsky MR, Masiello CA, Valentine DW, Finney BP. 2010. Topographic controls on black carbon accumulation in Alaskan black spruce forest soils: implications for organic matter dynamics. Biogeochemistry, 100(1-3): 39-56.

(13) Ball BA, Kominoski JS, Adams HE, Jones SE, **Kane** ES, Loecke TD, Mahaney WM, Martina JP, Prather CM, Robinson TMP, Solomon CT. 2010. Direct and Terrestrial Vegetation-mediated Effects of Environmental Change on Aquatic Ecosystem Processes. BioScience, 60(8): 590-601.

(12) O'Donnell JA, Aiken GR, **Kane** ES, Jones JB. 2010. Source water controls on the character and origin of dissolved organic matter in streams of the Yukon River basin, Alaska. Journal of Geophysical Research – Biogeosciences, doi:10.1029/2009JG001153.

(11) van Verseveld WJ, **Kane** ES, Sobota DJ, Myers-Smith IH, Fellman JB. 2010 ***Invited***. Reply to comment on 'Kane et al. 2008. Precipitation control over inorganic nitrogen import-export budgets across watersheds: a synthesis of long-term ecological research'. Ecohydrology 1: 105–117. Ecohydrology, 3(3): 370-372.

(10) Ping CL, Michaelson GJ, **Kane** ES, Packee EC, Stiles CA, Swanson DK, Zaman ND. 2010. Carbon Stores and Biogeochemical Properties of Soils under Black Spruce Forest, Alaska. Soil Science Society of America Journal, 74(3): 969-978.

(9) Barrett K, Kasischke ES, McGuire AD, Turetsky MR, **Kane** ES. 2010. Modeling fire severity in black spruce stands in the Alaskan boreal forest using spectral and non-spectral geospatial data. Remote Sensing of Environment, 114(7): 1494-1503.

Prior to MTU-

(8) **Kane** ES, Vogel JG. 2009. Patterns of total ecosystem carbon storage with changes in soil temperature in boreal black spruce forests. Ecosystems, 12(2): 322-335.

(7) **Kane** ES, Betts EF, Burgin AJ, Clilverd HM, Crenshaw CL, Fellman JB, Myers-Smith I, O'Donnell J, Sobota DJ, Van Verseveld WJ, Jones JB. 2008. Precipitation control over inorganic nitrogen import – export budgets across watersheds: a synthesis of Long-Term Ecological Research. Ecohydrology: 1: 105-117.

(6) *****Shetler G, Turetsky MR, **Kane** ES, Kasischke E. 2008. Sphagnum mosses control groundlayer fuel consumption during fire in Alaskan black spruce forests: implications for long-term carbon storage. Canadian Journal of Forest Research: 38: 2328-2336.

(5) Kasischke ES, Turetsky MR, Ottmar RD, French NHF, Shetler G, Hoy E, **Kane** ES. 2008. Evaluation of the Composite Burn Index for Assessing Fire Severity in Alaskan Black Spruce Forests. International Journal of Wildland Fire. 17: 515-526.

(4) **Kane** ES, Kasischke ES, Valentine DW, Turetsky MR, McGuire AD. 2007. Topographic influences on wildfire consumption of soil organic carbon in interior Alaska: Implications for black carbon accumulation. Journal of Geophysical Research – Biogeosciences. 112, G03017, doi:10.1029/2007JG000458.

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(2) **Kane** ES, Valentine DW, Schuur EAG, Dutta K. 2005. Soil carbon stabilization along climate and stand productivity gradients in black spruce forests of interior Alaska. Canadian Journal of Forest Research. 35: 2118-2129.

(1) **Kane** ES, Pregitzer KS, Burton AJ. 2003. Soil respiration along environmental gradients in Olympic National Park. Ecosystems. 6: 326-335.

Peer Reviewed Online Material:

D'Amore D, **Kane** E. 2016. Climate Change and Forest Soil Carbon. (August, 2016). U.S. Department of Agriculture, Forest Service, Climate Change Resource Center. www.fs.usda.gov/ccrc/topics/forest-soil-carbon.

General Technical Reports or Bulletins:

Kolka, R., C. Trettin, W. Tang, K. Krauss, S. Bansal, J. Drexler, K. Wickland, R. Chimner, D. Hogan, E. J. Pindilli, B. Benscoter, B. Tangen, E. **Kane**, S. Bridgham, and C. Richardson, 2018: Chapter 13: Terrestrial wetlands. *In* Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report [Cavallaro, N., G. Shrestha, R. Birdsey, M. A. Mayes, R. G. Najjar, S. C. Reed, P. Romero-Lankao, and Z. Zhu (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 507-567, https://doi.org/10.7930/

SOCCR2.2018.Ch13.

Janowiak, MK.; Iverson, LR.; Mladenoff, DJ.; Peters, E; Wythers, KR.; Xi, W; Brandt, LA.; Butler, PR.; Handler, SD.; Shannon, PD; Swanston, C; Parker, LR.; Amman, AJ.; Bogaczyk, B; Handler, C; Lesch, E; Reich, PB.; Matthews, S; Peters, M; Prasad, A; Khanal, S; Liu, F; Bal, T; Bronson, D; Burton, A; Ferris, J; Fosgitt, J; Hagan, S; Johnston, E; **Kane, E**; Matula, C; O'Connor, R; Higgins, D; St. Pierre, M; Daley, J; Davenport, M; Emery, MR.; Fehringer, D; Hoving, CL.; Johnson, G; Neitzel, D; Notaro, M; Rissman, A; Rittenhouse, C; Ziel, R. 2014. Forest ecosystem vulnerability assessment and synthesis for northern Wisconsin and western Upper Michigan: a report from the Northwoods Climate Change Response Framework project. Gen. Tech. Rep. NRS-136. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 247 p.

Yarie J, **Kane** E, Mack M. 2007. Aboveground biomass equations for the trees of Interior Alaska. Agricultural and Forestry Experiment Station Bulletin: 115. University of Alaska, Fairbanks. 15p.

Published Abstracts and Conference Presentations:

Invited- Fire Severity in Arctic and Boreal Peatland Complexes: Peat Consumption and Stand Regeneration Patterns Following 2014 and 2015 Northwest Territories Wildfires. Soils Science Society of America International Converence, January 2019, San Diego, CA.

Towards a global assessment of pyrogenic carbon from vegetation fires by Thorsten Dittmar et al. submitted to SSS6.4; EGU summer meeting, Vienna, Austria. Abstract number EGU2016-5683.

Water Table Effects on Root Properties of Plant Functional Types in a Northern Peatland Mesocosm Study. Ontl T, Hoch P, Custer M, Lilleskov E, Kane E, Potvin L, Kolka R, Chimner R. Soil Science Society of America, Fall Meeting, November 2015.

Invited Dissolved Organic Carbon as an Indicator of Peat Redox Processes: Lessons Learned from Manipulation of Water Table and Plant Functional Types. Society of Wetland Scientists, summer meeting, May 2015, Providence, Rhode Island.

Chemical Structure and Molecular Dimension As Controls on the Inherent Stability of Charcoal in Boreal Forest Soil; William Hockaday; Evan Kane; Mikael Ohlson; Rixiang Huang; Justin Von Bargen; Rebecca Davis. AGU Fall Meeting, Dec. 2014, San Francisco CA. B53H-07.

Geographic Perspective on Factors Controlling Post-Fire Succession in Boreal Black Spruce Forests in Western North America; Eric Kasischke, University of Maryland NASA Headquarters; Evan Kane, Michigan Tech Univ—SFRES; Helene Genet, Institute of Arctic Biology, University of Alaska Fairbanks; Merritt Turetsky, University of Guelph; Jonathan ODonnell, National Park Service Fairbanks; Elizabeth Hoy, University of Maryland; Kirsten Barrett, University of Leicester; Jennifer Baltzer, Wilfrid Laurier University. AGU Fall Meeting, Dec. 2014, San Francisco CA. B31D-0038A.

Quantifying the effect size of changing environmental controls on carbon release from permafrost-affected soils; Christina Schaedel, Martin Bader, Edward Schuur, Rosvel Bracho, Petr Capek, Sarah De Baets, Katka Diakova, Jessica Ernakovich, Iain Hartley, Colleen Iversen, Evan Kane, Christian Knoblauch, Massimo Lupascu, Susan Natali, Richard Norby, Jonathan O'Donnell, Taniya Roy Chowdhury, Hana Santruckova, Gaius Shaver, Victoria Sloan, Claire Treat, Mark Waldrop. AGU Fall Meeting, Dec. 2014, San Francisco CA. GC14A-03.

Controls on northern wetland methane emissions: insights from regional synthesis studies and the Alaska Peatland Experiment (APEX); Merritt Turetsky, Eugenie Euskirchen, Claudia Czimczik, Mark Waldrop, David Olefeldt, Zhaosheng Fan, Evan Kane, Anthony McGuire, Jennifer Harden. AGU Fall Meeting, Dec. 2014, San Francisco CA. B23H-07.

Lifting the Humic Veil: A Novel Approach to Quantitating Occluded Iron in Peat Porewater, Tim Veverica, Evan Kane, Amy Marcarelli, Sarah Green. AGU Fall Meeting, Dec. 2014, San Francisco CA. B41H-0160.

The Utility of Fire Radiative Energy for Understanding Fuel Consumption due to Wildfire in Boreal Peatlands, Asim Banskota, Mike Falkowski, Evan Kane, Alistair Smith. AGU Fall Meeting, Dec. 2014, San Francisco CA. B53C-0200.

Linking Root Productivity and Rhizosphere Processes of Different Plant Functional Types to Biogeochemical Processes in Northern Peatlands. Todd A Ontl; Justina Silva; Lynette Potvin; Evan Kane; Erik Lilleskov; Randall K. Kolka. SSSA Meeting, Long Beach, CA, Nov. 2014. 823.

Changes in the Carbon Concentration of Organic Matter in Different Soil Types and Horizons in Forested Spodosols. Evan Kane; Martin F. Jurgensen; Christopher Swanston. SSSA Meeting, Long Beach, CA, Nov. 2014. 826.

Invited Understanding Peat Redox and Decomposition Environment with Different Plant Functional Types and a Drier Climate: Considering More Than Just Water Table Position. Evan Kane, Erik Lilleskov, Lynette Potvin, Randall K. Kolka, Tim Veverica, Karl Romanowicz, Todd A Ontl, L. Jamie Lamit, Rod Chimner. SSSA Meeting, Long Beach, CA, Nov. 2014. 411-1.

Kane ES, Lilleskov EA, Kolka RK, Potvin LR, Pypker T, Chimner R. Interactive controls of water table and plant functional types on the carbon balance of northern peatlands: gaining mechanistic understanding through a tightly controlled mesocosm experiment (PEATcosm). 2013. North American Carbon Program; 4th All investigators meeting; Albuquerque NM. February 4-7.

Meingast K, Falkowski M, Kane E. Using field spectroscopy to assess the hydrology of Northern Lowland and Boreal Peatland fuels. 2013. North American Carbon Program; 4th All investigators meeting; Albuquerque NM. February 4-7.

Falkowski M, Kane E, Smith A, Kremens R, French N, Banskota A. Fuel Consumption and Carbon cycling in northern peatland ecosystems: Understanding vulnerability to burning, fuel consumption, and emissions via remote sensing of fuel moisture and radiative energy. 2013. North American Carbon Program; 4th All investigators meeting; Albuquerque NM. February 4-7.

Daniels, AL, Kane ES, Kolka R, Lillekkov EA. The effects of peatland plant functional types and altered hydrology on dissolved porewater chemistry. 2012. American Geophysical Union conference; San Francisco CA. December 3-7.

Romanowicz, K.J., A.L. Daniels, L.R. Potvin, E.S. Kane, R.K. Kolka, R.A. Chimner, and E.A. Lilleskov. Incorporating peatland plant communities into the Enzymic 'Latch' hypothesis: can vegetation influence carbon storage mechanisms? 2012. American Geophysical Union conference; San Francisco, CA. December 3-7.

Invited E.S. Kane; W.C. Hockaday., 2012. Does more intense burning occurring in warmer, drier boreal forest create more stable black carbon in soils? European Geophysical Union spring meeting; Vienna, Austria, Session SSS7.3.

Invited, E.S. Kane; J.A. Hribljan; M.R. Turetsky; R.A. Chimner. 2012. Effects of peatland drainage on dissolved organic carbon quality and quantity. INTECOL 9 scheduled June 3-8, 2012 in Orlando, Florida.

Invited, M.R. Turetsky; E.S. Kane; B. Benscoter. 2011. Biomass burning in boreal forests and peatlands: Effects on ecosystem carbon losses and soil carbon stabilization as black carbon. AGU Fall Meeting; San Francisco GC34C-04.

E.S. Kasischke; E.S. Kane; J.A. O'Donnell; N.L. Christensen; S.R. Mitchell; M.R. Turetsky; D.J. Hayes; E. Hoy; K.M. Barrett; A.D. McGuire; F. Yuan. ***Invited,*** 2011. Feedbacks between climate, fire severity, and differential permafrost degradation in Alaskan black spruce forests - implications for carbon cycling. AGU Fall Meeting; San Francisco B13J-02.

Invited Kane, E.S. 2010. Wildfire effects on soil carbon dynamics in black spruce forest. Xi Sigma Pi annual Symposium (*Fire in the Ecosystem*); Michigan Tech. University.

N. McConnell; A.D. McGuire; J.W. Harden; E.S. Kane, M.R. Turetsky. 2010. Controls on Ecosystem and Root Respiration in an Alaskan Peatland. AGU Fall Meeting; San Francisco B41H-0412.

E. S. Kane; L. R. Mazzoleni; C. J. Kratz; J. A. Hribljan; C. P. Johnson; T. G. Pypker; R. A. Chimner. 2010. Dissolved organic carbon in peat porewater increases with warming: a field manipulation experiment in a northern temperate bog. AGU Fall Meeting; San Francisco B23E-0425.

K. R. Neufeld; M. R. Turetsky; E.S. Kane. 2010. Controls of vegetation, hydrology, and climate on DOC production in Alaskan peatlands. AGU Fall Meeting; San Francisco B23E-0427.

Kane, E.S., Turetsky, M.R., Waddington, M.J., Harden, J.W., McGuire, A.D. 2009. Seasonal Ice and Drainage Controls over Solute Chemistry in a Rich Boreal Fen: a Field Water Table Manipulation Experiment in Interior Alaska. Eos Trans. AGU, 88(52), Spring Meet. Suppl., Abstract, B11D-0770.

Kane, E.S., Harden, J.W, Kasischke, E.S., Turetsky, M.R., Manies, K.L. 2007. Spatial variability in organic layer characteristics following wildfire in interior Alaskan black spruce forests. Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract, B11D-0770.

Kane, E.S., Valentine, D.W., Finney, B.P. 2007. Soil black carbon stocks are not related to patterns of charcoal production from past wildfires in interior Alaska: a comparison of lake sediment and terrestrial records. VI International Conference Disturbance Dynamics Workshop; Fairbanks, Alaska.

Kane, E.S., Harden, J.W, Kasischke, E.S., Turetsky, M.R., Manies, K.L. 2006. Soil drainage and topographic influences on wildfire consumption of soil organic carbon in boreal forests: implications for carbon stability. Eos Trans. AGU, 86, Fall Meeting. Suppl., Abstract B21A-1011; San Fransisco, California.

Kane, E.S., Valentine, D.W., Michaelson, G.J., Fox, J.W., Ping, C-L. 2005. Controls Over Pathways of Carbon Efflux From Soils Along Climate and Black Spruce Productivity Gradients in Interior Alaska. 2nd Annual International Conference on Mechanisms of Organic Matter Stabilization and Destabilization in Soils and Sediments; Monterey, California.

Kane, E.S., Valentine, D.W., Michaelson, G.J., Fox, J.W., Ping, C-L. 2005. Controls Over Water-Soluble Organic Carbon Characteristics and Fluxes Along Climate and Stand Productivity Gradients in Interior Alaska. ESA: 90th Annual Meeting; Montreal, Quebec, Canada.
E.S. Kane; Betts, E. 2005. Stream Chemistry as an ecological indicator of continent-wide disturbance. Workshop presented at the first LTER student research synthesis symposium; Blue River, Oregon.

Kane, E.S., Valentine, D.W., Schuur, E.A.G., Dutta, K. 2004. Soil Carbon Stabilization Along Climate and Stand Productivity Gradients in Black Spruce Forests of Interior Alaska. Eos Trans. AGU, 85(47), Fall Meeting. Suppl., Abstract B23A-0944; San Fransisco, California.

Kane, E.S., Valentine, D.W., Schuur, E.A.G., Dutta, K. 2004. Soil Carbon Stabilization Along Productivity Gradients in Interior Alaska. Inland Northwest Research Alliance 2004 Environmental and Subsurface Science Symposium; Spokane, Washington.

Kane, E.S., Valentine, D.W. 2003. Soil carbon stabilization along productivity gradients in the boreal forest. LTER All Scientists Meeting; Seattle, Washington.

Kane, E.S., Pregitzer, K.S., Burton, A.J., Ashby, J.A. 2001. Soil CO2 efflux along a diverse temperature and moisture gradient in Olympic National Park, Washington. ESA: 86th Annual Meeting; Madison, Wisconsin.

Conferences Convened:

Co-organizer; "Monitoring Forest Soil Moisture for a Changing World", Michigan Tech Research Institute, Ann Arbor, MI; May, 2018.

Co-convener for special session at AGU fall meeting; Observations and Model Requirements for Understanding Drivers of Disturbance Processes in Arctic and Boreal Terrestrial Ecosystems (2014)

Co-convener for special session at AGU spring meeting; Detecting Change in Permafrost through Physical and Biogeochemical Linkages (2009)

Kane, E.S., Turetsky, M.R. 2009. An Alaska Soil Carbon Database; Database Collaborator's Meeting; Fairbanks, Alaska, 4 March 2009; Eos, Vol. 90, No. 21, 26 May 2009.

Awarded Research Grants and Contracts:

2021-2024 *Collaborative Research: Does tree encroachment with altered hydrology in peatlands accelerate or suppress decomposition*? PI: E. Kane, Co-I's E. Lilleskov, J. Keller. NSF-DEB, $647,251. 2 PhD students funded.

2020-2025 *Collaborative Research: Long-term changes in peatland C fluxes and the interactive roles of soil climate, vegetation, and redox supply in governing anaerobic microbial activity*. PI: Kane ES, Co-I: Keller J, Turetsky MR. NSF (LTREB), $590,000. 1 PhD student, 1 MS student funded.

2016-2019 *Analysis of Nutrient Poor Sandy Soils of Wisconsin*. PI: Kane ES. Wisconsin Department of Natural Resources, $26,282. 1 MS student funded.

2016-2019 Understanding Climate Change Drivers of Trace gas Production in Black Spruce Forests of Minnesota. PI: Kane ES. UT Battelle; Oak Ridge National Lab, $87,760.

2016-2019 *Understanding the Vulnerability and Resiliency of Boreal- Taiga Ecosystems to Wildfire in a Changing Climate: A study of the 2014 Northwest Territories Wildfires*. PI: L. Bourgeau-Chavez, Co-I's: Kane ES, French NH, Balzer J, de Groot W, Flannigan M, Turetsky M. NASA ABoVE: $623,406. 1 MS student funded.

2014-2019 *Collaborative Research: Long-term changes in peatland C fluxes and the interactive roles of soil climate, vegetation, and redox supply in governing anaerobic microbial activity*. PI: Kane ES, Co-I: Keller J, Turetsky MR. NSF (LTREB), $429,000. 1 PhD student funded.

2015 *MRI: Acquisition of an Ultrahigh Resolution Mass Spectrometer for Interdisciplinary Research and Education.* PI: Mazzoleni L. $774,668.

2012-2016 *Fuel Consumption and carbon cycling in northern peatland ecosystems: Understanding vulnerability to burning, fuel consumption, and emissions via remote sensing of fuel moisture and radiative energy.* PI: Falkowski MJ, Co-I: Kane ES, Miller ME, Bourgeau-Chavez L, French N, Levin E. NASA (NSPIRES), $827,074. 1 post-doc funded.

2012-2016(NCE) *Collaborative Research: PEATcosm: Understanding the interactions of climate, plant functional groups and carbon cycling in peatland ecosystems*. PI: E. Kane, Co-I E. Lilleskov, R. Kolka, R. Chimner, T. Pypker, J. Lennon. NSF-DEB, $560,115. 1 MS and 2 PhD students funded.

2011-2014(NCE) *Influence of fuel moisture and density on black carbon formation during combustion of boreal peat fuels*. PI: B. Benscoter, Co-I Kane, E. G. Corace, M. Falkowski. Joint Fire Science Program, $70,916. 1 MS student funded.

2011-2014(NCE) *Interactive effects of climate change and altered decomposer communities on the stabilization of wood-derived C in soils: Catalyst for new research*. PI: S. Resh, Co-I: E. Kane, D. Richter, Department of Energy, $150,000.

2010-2012 *Initiating Peatland Research at the Houghton Mesocosm Facility: Graduate Student Funding*. PI: E. Kane, Co-I: R. Chimner, R. Kolka. U.S. Forest Service Joint Venture Agreement, $83,248. 1 MS student funded.

2011 *Infrastructure enhancement request for the acquisition of a Sunset Laboratory OCEC Instrument for the determination of organic and elemental carbon*. Co I W. Cantrell, L. Mazzoleni, P. Doskey, K. Paterson. Michigan Tech. Research Excellence Fund, Infrastructure Enhancement, $34,800

2009-2012 *Predicting how CH4 formation, transport pathways and flux rates in peatlands will respond to climate change*. PI R. Chimner, Co-I: E. Kane, T. Pypker, Co-I P. Doskey, E. Kane, DOE NICCR, $147,000.

2007-2009 *Wetland soils as harbors of mercury: the vulnerability of mercury leaching export to streams under changing land-use and climatic regimes*. Center for Watershed Studies Fellowship (M.R. Turetsky; MSU), $115,230.

2005 *Stream chemistry as an ecosystem indicator of continent-wide disturbance*. LTER Network Office Coordinating Committee; proposal for cross-site science within the LTER Network. co-authors: I. Myers-Smith, J. O'Donnell, N. Lisuzzo, E. Betts, H. Clilverd. $5,000.

2004 *First LTER Graduate Student Collaborative Research Symposium*. FCE LTER supplemental proposal request. co-authors: T. Troxler-Gann, R. Daoust, H. Dalgleish, S. Oakes, R. Michaels, N. Grimm. $43,620.

2003 Inland Northwest Research Alliance Fellowship (Dept. of Energy); Subsurface Science Graduate Research Program, $65,000.

2003 *The Interaction Between Production and Landscape Position in Controlling Soil Carbon Accumulation in Fire-prone Black Spruce Ecosystems*. Global Change Student Research Grant (UAF Center for Global Change and Arctic Systems Research). $10,000.

Pending Research Grants and Contracts:

NSF 2011257 PI: Kane NSF (LTREB- renewal): Collaborative Research: Long-term changes in peatland C fluxes and the interactive roles of soil climate, vegetation, and redox supply in governing anaerobic microbial activity Pending $290,707. 1 PhD student funded.

3. TEACHING:

Undergraduate Courses Taught:
Soil Science (FW3330). 4 credits (with lab). An introduction to the physical, chemical, and biological properties of soils, with particular emphasis on forested ecosystems of northern Michigan. Laboratory analysis techniques are also covered.

Undergraduate Independent Studies:

Summer Undergraduate Research Fellowship (SURF), MTU.

(13) Maddie Pugh; 2021, Using peat charcoal layers as a common datum for C cycling
(12) Grady Boyle; 2020, Redefining the Organic Matter to Carbon ratio in Spodosols
(11) Ally O'Neil; 2020, Hydraulic properties of drought stress in peatlands
(10) Chelsey Bach; 2018, Soil properties in response to heavy moose browse
(9) Chelsey Bach; 2016, Methods in soil genomics: Global Peatland Microbiome Project
(8) Lee Theobald; 2016. Assessment of harvesting on marginal soils for long-term productivity characteristics in Northern Wisconsin.
(7) Robert Richard; 2015. Assessment of biochar and wood ash amendments to assist seedling development in production forestry.
(6) Sarah Harttung; 2015. Changes in peat density and carbon stocks with altered water table and plant functional types.
(5) Eryn Grupido; 2014. Characterizing sediments from the putative site of LaSalle's Griffon crash site near Niagara escarpment.
(4) Kevin Wright; 2013. Undergraduate research project; mapping peatland wildfire fuels with WorldView II imagery.

(3) Lauren Manninen; 2011- in progress (with C. Tarasoff) Soil Carbon Stabilization in Switchgrass Plantation Systems of Northern Michigan. Awarded.
(2) Kristina Flesher; 2009. *Magnetite: its effect on soil, plant growth, and use as an indicator of past geological events.* Declined funding.
(1) Timothy Veverica; 2009. *Tamarack and black spruce adventitious root patterns are similar in their ability to estimate organic layer depths in northern temperate forests*. $3000 awarded.

Graduate Courses Taught:

Forest Soils (FW5060/FW5330). 3 credits (with lab). An introduction to the physical, chemical, and biological properties of soils, with particular emphasis on forested ecosystems of northern Michigan. Laboratory analysis techniques are also covered.

Distinguished Ecologist Lecture Series *DELS* (FW5000). 1 credit. An opportunity to meet with some of the world's leading ecologists and to discuss their research. Pre- and post-lecture meetings enable students to review some of the research and discuss how it has impacted the field of ecology.

Graduate Teaching (FW6980). Development of teaching skills through assisting in instruction. Students gain experience in course organization, lecture and laboratory instruction, and laboratory preparation.

Forest Resources and Environmental Science Master's Research (FW5999). An original investigation in forest science, ecology, and forest molecular genetics that culminates in a Master's degree.

Introduction to Wildland Fire (FW4300/FW5510). 3 credits. An introduction into aspects of fire science, management, ecology, and social and economic effects of wildland fire. *Co-taught with J. Wagenbrenner*.

Wildland Fire Seminar (FW5510). 1 credit. A survey of literature describing ecological causes and effects of wildfire, and an introduction to the Wildland Fire Danger Rating System.

Methods in Soil Organic Matter Characterization (FW5510). 2 credits. Assessment of soil organic matter and evaluation of biological and physical fractionation methods for carbon in soils.

Dissolved organic matter seminar (FW5510). 1 credit. A survey of literature pertaining to dissolved organic matter in natural ecosystems, methods, and applications.

Guest Lectures:

Wetlands (FW4220). Boreal forest peatlands and climate change.

Soil Biogeochemistry (FW5517). The importance of dissolved organic carbon and nitrogen for soil carbon stabilization

Stable Isotopes in Ecology and Environmental Science (FW5140). The applicability of foliar stable isotopes to ecosystem carbon and nitrogen cycling.

Graduate Theses Supervised or Co-Supervised:
Name, years, topic of thesis

(15) Jessica Czarnecki, 2021- PhD in progress. Long-term effects of altered hydrology on trace gas production in a boreal peatland.

(14) Nor Serocki, 2021- MS in progress. Long-term effects of altered hydrology on plant community and trace gas production in a boreal peatland.

(13) Liam Kraus, 2019- 2021 MS. Long-term effects of Judicial Ditches for carbon losses in Minnesota peatlands

(12) Madeline Peterson, 2019-2021 MS. Controls on mercury methylation in peatlands

(11) Dominic Uhelski, 2018-2021 PhD. Determining the nature fire return interval of upper Michigan lowland conifer forest

(10) Robert Richard, 2016- 2020 PhD. Evaluation of chemical and physical properties of currently restricted soils throughout Wisconsin.

(9) Deanna Seil, 2016- 2019. Peace Corps Masters International.

(8) Liz Ernst, 2015- 2017 MS Fire severity effects on carbon loss and regeneration in diverse Canadian peatlands

(7) Danielle Rupp, 2015- 2019 PhD. Anaerobic metabolism in Alaskan peat

(6) Sam Mosier, 2013-2015 MS. Wood-derived carbon stabilization in soils.

(5) Greg Houle, 2013-2015 MS. Carbon cycling in boreal ecosystems.

(5) Karl Miengast, 2014- 2020 PhD. Dissolved soil organic matter export dynamics into Lake Superior.

(4) Estefanía López González, 2012-did not finish, Carbon cycling in northern peatlands in the face of a changing climate

(3) Tim Veverica, 2012- 2014 MS, Peatland plant functional types determine dissolved porewater chemistry and their implications for anaerobic metabolism
(2) Karl Miengast, 2011-2013 MS. Development of fuel moisture characterization models for Northern Lowland and Boreal Peatland Fuels

(1) Aleta Daniels, 2010-13 MS. Peatland plant functional types determine dissolved porewater chemistry

Graduate Theses Committees:
(24) Amna Ijaz, 2018-2021, PhD: HIGH-RESOLUTION MOLECULAR CHARACTERIZATION OF COMPLEX ENVIRONMENTAL MIXTURES

(23) Mindy Kantola, 2017-2020, MS (Northern Michigan University):

(22) Mara McPartland, 2016-2018, MF (University of Minnesota): The response of boreal peatland community composition and NDVI to hydrologic change, warming and elevated carbon dioxide.

(21) Joel Taylor, 2015-2017, MF (Ball); I assisted with his defense evaluation. I also worked with Joel in my Forest Soils course.

(20) Rafia Rahman, 2017- 2019 (MS; advised by M. Kelly): Effects of timber harvest on soil bulk density.

(19) Brice Grunnert, 2013- 2019 (PhD., advised by C. Mouw, MTU): Assessment of Remote Sensing Methods for CDOM dynamics in the Bering Sea.

(18) Colin Brooks, 2014 – 2020 (PhD; advised by A. Marcarelli, MTU): Assisted with proposal development and comprehensive exam

(17) Mehmet Acet, 2014-2016 (MS; advised by O. Gailing, MTU): Assisted with research priorities and manuscript revision.
(16) Akwasi Duah-Gyamfi, 2014- 2018 (PhD; advised by A. Burton, MTU): Assisted with comprehensive exam

(15) Jianqiu Zheng 2011-2015 (PhD; advised by P. Doskey, MTU): Assisted with dissertation revisions and overall writing.

(14) Kevin Perzinski, 2013-2015, MF (Ball); I assisted with his defense evaluation. I also worked with Kevin in my Forest Soils course.

(13) Kate Miller, 2012-2014, MF (Pickens); I assisted with her defense evaluation. I also worked with Kate in my Forest Soils course.

(12) Stephanie Watts-Garcia, 2012-2014; MS (Vitton); Stability Analysis of the Slope along US-2 between Epoufette Bay and the Cut River Bridge

(11) Meral Jackson (2011- in progress): Assist with project development and in implementing new methodologies in stream water analysis.

(10) Mike Premer (2011- 2015; Froese): I assist with experiment implementation, soil analysis, and act as a sounding board for ideas.

(9) Eric Nelson, 2011-2013, MF (Pickens); I assisted with his defense evaluation. I also worked with Martin in my Fire Seminar course.

(8) Martin Hensley, 2011-2013, MF (Pickens); I assisted with his defense evaluation. I also worked with Martin in my Fire Seminar course.

(7) Cassandra Ott, 2011-2013, Carbon in the Peatlands of the Great Lakes Region of North America

(6) Kyle Hampton, 2010-2012, MF (Pickens); I assisted with his defense evaluation. I also worked with Kyle in the USFS laboratory.

(5) Ashley Coble, 2011-2015 (Marcarelli), Watershed dissolved carbon export and metabolism.

(4) Kristina Flesher, 2011- (Gailing), Disentangling edaphic vs. genetic controls over Aspen production on Long Term Site Productivity (LTSP) study sites

(3) Claire Treat (University of New Hampshire), 2010- 2014, The Great Northern Carbon Bomb? Impacts of permafrost thaw on soil C emissions and storage in Alaskan peatlands
(2) Mickey Jarvi, 2009-2011, *The Effects of a Changing Climate on Root Respiration of Woody Plants in Sugar Maple Forests and Northern Peatlands*

(1) Kassidy Yatso, 2009-2011, *Planting and Production of Switchgrass (Panicum virgatum L.) as a Bioenergy Crop in Michigan's Upper Penninsula*

Other Advising Efforts & Mentorship

(6) Advisor for Student Wildland Fire Group at MTU

(5) Ecosystem Science Center undergraduate and graduate poster competition judge (MTU), proposal reviewer

(4) Teaching Assistantship: *Soil Science*
Curtis Kvamme (2009)
Chris Miller (2010, 2011)
Carley Kratz (2011, 2012)
Aleta Daniels (2012)
Kristina Flesher (2013)
Greg Houle (2014, 2015)
Robert Richard (2016, 2017, 2018)
Madeline Peterson (2020)

(3) MS and PhD student mentees:
Jim Bess (MTU); John Hribljan (MTU); Karl Romanowicz (MTU); Nicole McConnell (UAF)
Molly Chivers (MSU); Jason Martina (MSU); Kevin Wyatt (MSU)

(2) Undergraduate student mentees:
Grady Boyle (MTU)
Ally O'Neill (MTU)
Calvin Norman (MTU)
Chelsey Bach (MTU)
Brandon Stimac (MTU)
Lee Theobald (MTU)
Sarah Harttung (MTU)
Eryn Grupido (MTU)
Kevin Wright (MTU)
Kristina Flesher (MTU)
Timothy Veverica (MTU)
Nick Brehm (UAF)

(1) Michigan Tech. University Bio-char Working Group (2009, 2010, 2011)

http://www.terrapreta.mtu.edu/

4. SERVICE TO THE PROFESSION:

Teaching and Learning Workshops Offered:

(4) National Advanced Silviculture Program (NASP); participated instructor in 2012.

(3) Wetlands Teacher Institute (MTU; J. Chadde); budgeted for in 2013, 2014, 2015, 2016, 2022, 2023.

(2) Forest Ecology and Resources Teacher Institute (MTU; J. Chadde); lecturer and trip leader (2009, 2010)

(1) ESA Strategies for Ecology Education, Development and Sustainability (SEEDS); trip leader (2008)

Journal and Grant Reviews (approximately eight per year since 2006):

Biogeochemistry; BioScience; 7th California Islands Symposium; Canadian Journal of Forest Research; Chemosphere; Ecohydrology; Ecosystems; Forest Ecology and Management; Forest Science; Frontiers in Ecology and the Environment; Global Change Biology; Hydrological Processes; International Journal of Wildland Fire; Journal of Environmental Management; Journal of Forestry; Journal of Geophysical Research-Biogeosciences; Landscape Ecology; Nature- Climate Change; Nature- Geoscience; New Forests; Science of the Total Environment; Soil Science and Environmental Management; Soil Science Society of America J.; Torrey Botanical Society.

Proposal reviewer for NSF, Office of Polar Programs (2010, 2011); Arctic Natural Sciences (2012, 2013, 2014, 2015). DEB (2020)

5. SERVICE TO MICHIGAN TECHNOLOGICAL UNIVERSITY:

Faculty Search Committees:
2020- Forest Health search, chair CFRES
2018- SFRES Dean search; Chaired by R. Chimner and M. Cavaleri (SFRES)
2016- Forest Hydrologist/Ecohydrologist search; chaired by R. Chimner (SFRES)
2016- Remote Sensing Professor search; chaired by A. MacLean (SFRES)
2014- Remote Sensing Professor search; chaired by A. MacLean (SFRES)

School Committees:
2018-present Tenure and Promotion committee
2015-2016- Forestry Program Area Coordinator
Research Forest and Ford Center Management Committee
Curriculum Committee

School Council:
2016- Assistant Prof. Representative
2015- Assistant Prof. Alternate Representative
2014- Assistant Prof. Representative