David M. Nelson

University of Maryland Center for Environmental Science (UMCES), Appalachian Laboratory
301 Braddock Road, Frostburg, MD 21532 | 301-689-7171 | dnelson@umces.edu

EDUCATION

University of Illinois, Urbana, IL **2005**
Doctor of Philosophy, Ecology

Trinity Christian College, Palos Heights, IL **2001**
Bachelor of Arts, Biology

PROFESSIONAL APPOINTMENTS

Professor, *UMCES Appalachian Laboratory*, Frostburg, MD **2021–present**

Director, *UMCES Appalachian Laboratory*, Frostburg, MD **2021–present**

Associate Professor, *UMCES Appalachian Laboratory*, Frostburg, MD **2015–2021**

Visiting Research Fellow, *Nagoya University*, Nagoya, Japan **2016–2017**

Assistant Professor, *UMCES Appalachian Laboratory*, Frostburg, MD **2009–2015**

Postdoctoral Fellow, *Institute for Genomic Biology*, *University of Illinois*, Urbana, IL **2006–2009**

Visiting Postdoctoral Fellow, *Department of Earth and Planetary Sciences*, *Harvard University*, Cambridge, MA **2006–2008**

Postdoctoral Associate, *Departments of Plant Biology and Animal Sciences*, *University of Illinois*, Urbana, IL **2006**

Graduate Research Assistant, *University of Illinois*, Urbana, IL **2002–2004**

TEACHING EXPERIENCE

Lecturer, *Scientific Job Skills 101 (MEES 609B)*, 1 credit
Fall 2019, Spring 2022, 2024, 2026

Lecturer, *Stable Isotopes in Environmental Research (MEES 698R)*, 3 credits
Fall 2011, 2013, 2015, 2017, 2019, 2021, 2023, and 2025

Lecturer, *Environmental Impacts of Unconventional Gas-Well Drilling and Hydraulic Fracturing (MEES 608Y)*, 1 credit **Fall 2013**

Teaching Assistant, *Ecology* **Fall 2004 and 2005**

Teaching Assistant, *Introduction to Plant Biology* **Spring 2005**

Teaching Assistant, *Introduction to Biology* **Fall 2001 and Spring 2002**

HONORS AND AWARDS

Graduate, *Leadership Maryland* **Class of 2022**

Short-Term Invitation Fellowship, *Japan Society for the Promotion of Science* **2017**

Visiting Research Fellowship, *Nagoya University* **2016–2017**

Young Scientists Support Award, *XIII IPC/XI IOPC conference* **2012**

Participant, *Dissertations Initiative for the Advancement of Climate Change Research Symposium (DISCCRS III)* **2007**

List of Teachers Ranked Excellent, *University of Illinois* **Fall 2004 and Spring 2005**

NSF Paleoclimatology support award, *American Quaternary Association conference* **2004**

Graduate Teacher Certificate, *University of Illinois* **2002**

PUBLICATIONS (# = graduate student co-author, * = undergraduate student co-author)

Shuman B, Stefanova I, Ray-Cozzens T, Stefanescu I, Johnson J, **Nelson DM**. 2026. The role of the climate niche in repeated abrupt tree declines and ecotone dynamics in the Appalachian Mountains during the Holocene. *Frontiers of Biogeography* 34: e70172.

Stansfield AR, Booth RK, **Nelson DM**, Johnson J. 2025. Recent changes in the use of phototrophy by a mixotrophic testate amoeba inferred from $\delta^{13}C$ measurements from an arctic peat core. *Microbial Ecology*: https://doi.org/10.1007/s00248-025-02681-3.

Wiles S, Schlenker N, **Nelson DM**, Shuman B, Williams JW. 2025. Are ecotonal systems more sensitive to climate change? Past ecotonal dynamics and rates of vegetation change in Michigan. *Global Ecology and Biogeography*.

Campbell CJ, **Nelson DM**, Nagel J, Clerc J, Weller T, Wieringa JG, Fraser E, Longstaffe FJ, Hale A, Lout M, Pruitt L, Guralnick R, Vander Zanden HB. 2025. Migratory strategy is a key factor driving interactions at wind energy facilities in at-risk North American bats. *Ecology Letters* 28: e70202.

Weaver SP, Hale AM, **Nelson DM**, Fritts SR, Katzner T, Chipps AS, Korstian JM, LiCari ST,

Nagel J, Williams DA. 2025. Spatiotemporal patterns in sex ratios of bat fatalities at wind energy facilities in the United States. *Global Ecology and Conservation* 61: e03672.

Katzner TE, **Nelson DM**, Marques AT, Voigt C, Lambertucci S, Rebolo N, Bernard E, Diehl R, Murgatroyd M. 2025. Impacts of onshore wind-energy production on biodiversity. *Nature Reviews Biodiversity*: https://doi.org/10.1038/s44358-025-00078-1.

Woodland RJ, Hilderbrand RH, **Nelson DM**. 2025. Predictable effects of storage time on $\delta^{13}C$ and $\delta^{15}N$ values of ethanol-preserved nymphs of *Epeorus vitreus* (Walker, 1853) and *Acentrella turbida* (McDunnough, 1924) (Ephemeroptera). *Aquatic Insects* 46: 1–15.

Schlenker N[#], Johnson J[#], Ray-Cozzens T[#], Stefanova V, **Nelson DM**, Shuman BN, Williams JW. 2024. Interacting effects of fire and hydroclimate on oak and beech community prevalence in southern Great Lakes region. *Journal of Ecology* 1101-1112.

Wieringa JG[#], Nagel J[#], Campbell CJ[#], **Nelson DM**, Carstens BC, Gibbs HL. 2024. Geographic source of bats killed at wind-energy facilities in the eastern United States. *PeerJ*: 12: e16796.

Vander Zanden HB, **Nelson DM**, Conkling TJ, Allison TD, Diffendorfer JE, Dietsch TV, Fesnock AL, Loss SR, Ortiz PA, Paulman R, Rogers KH, Sanzenbacher PM, Katzner TE. 2024. The geographic extent of bird populations affected by renewable-energy development. *Conservation Biology:* e14191.

LiCari ST[#], Hale AM, Weaver SP, Fritts SR, Katzner TE, **Nelson DM**, Williams DA. 2023. Understanding fatality patterns and sex ratios of Brazilian free-tailed bats (*Tadarida brasiliensis*) at wind energy facilities in western California and Texas. *Peer J* 11: e16580.

Nagel J[#], **Nelson DM**, Gugger P. 2023. Population genetic structure and effective size of two endangered cave bat species. *Acta Chiropterologica* 25: 203-211.

Bostic JT[#], **Nelson D**M, Eshleman KN. 2023. Downpour dynamics: outsized impacts of storm events on unprocessed atmospheric nitrate export in an urban watershed. *Biogeosciences* 20: 2485-2498.

Wieringa JG[#], Nagel J[#], Campbell CJ[#], **Nelson DM**, Carstens BC, Gibbs HL. 2023. Combining stable isotopes, trace elements, and distribution models to assess the geographic origins of migratory bats. *Ecosphere*: 14: e4588.

Korasidis V, Wing SL, **Nelson DM**, Bacynski AA. 2022. Reworked pollen reduces apparent floral change during the Paleocene-Eocene thermal maximum. *Geology* 50:1398–1402.

Devotta DA, **Nelson DM**, Kent AD, Walsh PB, Hu FS. 2022. Effects of alder-and salmon-derived nutrients on aquatic bacterial community structure and microbial community metabolism in sub-arctic lakes. *Oecologia* 199: 711–724.

Conkling TJ, Vander Zanden HB, Allison TD, Diffendorfer JE, Dietsch TV, Duerr AE, Fesnock AL, Hernandez RR, Loss SR, **Nelson DM**, Sanzenbcher PM, Yee JL, Katzner TE. 2022. Vulnerability of avian populations to renewable energy production. *Royal Society Open Science* 9: 211558.

Campbell CJ[#], **Nelson DM**, Gates JE, Gibbs HL, Stevenson ER, Johnson B, Nagel J, Trott R, Wieringa JG[#], Vander Zanden HB. 2022. White-nose syndrome pathogen *Pseudogymnoascus destructans* detected in migratory tree-roosting bats. *Journal of Wildlife Diseases* 58.

Prakash A[#], DeYoung S, Lachmuth S, Adams JL, Johnsen K, Butnor JR, D.M. **Nelson DM**, Fitzpatrick MC, Keller SR. 2022. Genotypic variation and plasticity in climate-adaptive traits after range expansion and fragmentation of red spruce (*Picea rubens* Sarg.). *Philosophical Transactions B* 337: 20210008.

Bostic JT[#], **Nelson DM**, Sabo RD, Eshleman KN. 2022. Terrestrial nitrogen inputs affect the export of unprocessed atmospheric nitrate to surface waters: Insights from triple oxygen isotopes of nitrate. *Ecosystems*: doi.org/10.1007/s10021-021-00722-9.

Fetter KC[#], **Nelson DM**, Keller SR. 2021. Growth-defense trade-offs masked in unadmixed populations are revealed by hybridization. *Evolution* 75-6: 1450–1465.

Monopoli M[*], Wieringa JG[#], Nagel J[#], **Nelson DM**, Gibbs HL. 2020. Sequencing whole mitochondrial genomes to assess genetic divergence between proposed silver-haired bat (*Lasionycteris noctivagans)* populations. *Mitochondrial DNA Part B* 5: 3838–3839.

Wieringa JG[#], Nagel J[#], **Nelson DM**, Carstens BC, Gibbs HL. 2020. Using trace elements to constrain the geographic origin of migratory tree-roosting bats. *PeerJ* 8: e10082.

Trumper M[*], Griffin D, Hobbie SE, Howard I, **Nelson DM**, Reich PB, McLauchlan KK. 2020. Century-scale wood nitrogen isotope trajectories from an oak savanna with variable fire frequencies. *Biogeosciences* 17: 4509–4522.

Capblancq T, Butnor JR, DeYoung S, Thibault E, Munson H, **Nelson DM**, Fitzpatrick MC, Keller SR. 2020. Whole exome sequencing reveals a long-term decline in effective population size of red spruce (*Picea rubens*). *Evolutionary Applications* 13: 2190–2205.

Campbell CJ[#], Fitzpatrick MC, Vander Zanden HB, **Nelson DM**. 2020. Advancing interpretation of stable isotope assignment maps: comparing and summarizing origins of known-provenance migratory bats. *Animal Migration* 7: 27–41.

Sabo RD[#], Elmore AJ, **Nelson DM**, Clark CM, Fisher T, Eshleman KN. 2020. Positive correlation between wood δ^{15}N and stream nitrate concentrations in two temperate deciduous forests. *Environmental Research Communications* 2: 025003.

Pellegrini A, McLauchlan K, Hobbie S, Mack M, Marcotte A, **Nelson DM**, Perakis S, Reich PB, Whittinghill K. 2020. Frequent burning causes large losses of carbon from deep soil

layers in a temperate savanna. *Journal of Ecology* 108: 1426–1441.

Katzner TE, Braham MA, Conkling TJ, Diffendorfer JE, Duerr AE, Loss SR, **Nelson DM**, Vander Zanden HB, Yee JL. 2020. Assessing population-level consequences of anthropogenic stressors for terrestrial wildlife. *Ecosphere* 11(3): e03046. 10.1002/ecs2.3046.

Katzner TE, **Nelson DM**, Diffendorfer J, Duerr AE, Campbell CJ[#], Leslie D, Vander Zanden HB, Yee J, Sur M, Huso M.M.P., Braham MA, Morrison ML, Loss SR, Poessel SA, Conkling TJ, Miller TA. 2019. Wind power: An ecological challenge. *Science* 366: 1206–1207.

Craine J, Elmore AJ, Wang L, Boeckx P, Delzon S, Fang Y, Gray A, Guerrieri R, Gundale MJ, Hietz P, **Nelson DM**, Peri PL, Templer PH, Werner C. 2019. Reply to: Data do not support large-scale oligotrophication of terrestrial ecosystems. *Nature Ecology and Evolution* 3: 1287–1288.

Sebestyen SD, Ross DS, Shanley JB, Elliott EM, Kendall C, Campbell JL, Dail D, Fernandez IJ, Goodale CL, Lawrence GB, Lovett GM, McHale PJ, Mitchell MJ, Nelson SJ, Shattuck MD, Wickman TR, Barnes RT, Bostic JT[#], Buda AR, Burns DA, Eshleman KN, Finlay JC, **Nelson DM**, Ohte N, Pardo LH, Rose LA, Sabo RD[#], Schiff SL, Spoelstra J, Williard KWJ. 2019. Unprocessed atmospheric nitrate in waters of the Northern Forest Region in the USA and Canada. *Environmental Science and Technology* 53: 3620–3633.

Landesman WL, **Nelson DM**, Freedman Z. 2019. Seasonal, sub-seasonal and diurnal variation of soil bacterial community composition in a temperate deciduous forest. *FEMS Microbiology Ecology* 95: fiz002.

Herbert RP[*], Peters SC, **Nelson DM**, Booth RK. 2019. Light variability and mixotrophy: responses of testate amoeba communities and shell $\delta^{13}C$ values to a peatland shading experiment. *European Journal of Protistology* 67: 15–26.

Vander Zanden HB, **Nelson DM**, Wunder MB, Conkling TJ, Katzner T. 2018. Application of stable isotopes to determine geographic origin of terrestrial wildlife for conservation and management. *Biological Conservation* 228: 268–280.

Craine J, Elmore AJ, Aranibar J, Bauters M, Boeckx P, Crowley BE, Dawes MA, Delzon S, Fajardo A, Fang Y, Fujiyoshi L, Gray A, Guerrieri R, Gundale MJ, Hawke DJ, Hietz P, Jonard M, Kearsley E, Kenzo T, Makarov M, Marañón-Jiménez S, McGlynn TP, McNeil BE, Mosher SG, **Nelson DM**, Peri PL, Christophe Roggy J, Sanders-DeMott R, Song M, Szpak P, Templer PH, Van der Colff D, Wang L, Werner C, Xu X, Yang Y, Yu G, Zmudczyńska-Skarbek K. 2018. Isotopic evidence for oligotrophication of terrestrial ecosystems. *Nature Ecology and Evolution* 2: 1735–1744.

Vander Zanden HB, Reid A[*], Katzner T, **Nelson DM**. 2018. Effect of heat and singeing on stable hydrogen isotope values of bird feathers and implications for their use in determining geographic origins. *Rapid Communications in Mass Spectrometry* 32: 1859–1866.

Nelson DM, Nagel J[#], Trott R, Campbell CJ[#], Pruitt L, Good RE, Iskali G, Gugger PF. 2018. Carcass age and searcher identity affect morphological assessment of sex of bats. *The Journal of Wildlife Management* 82: 1582–1587.

Nelson DM, Tsunogai U, Dong D[#], Ohyama T, Komatsu DD, Nakagawa F, Noguchi I, Yamaguchi T. 2018. Triple oxygen isotopes indicate urbanization affects sources of nitrate in wet and dry atmospheric deposition. *Atmospheric Chemistry and Physics* 18: 6381–6392.

Reaves VC[#], Elmore AJ, **Nelson DM**, McNeil BE. 2018. Drivers of spatial variability in greendown within an oak-hickory forest landscape. *Remote Sensing of Environment* 210: 422–433.

Campbell CJ[#], **Nelson DM**, Ogawa NO, Chikaraishi Y, Okhouchi N. 2017. Trophic position and dietary breadth of bats revealed by nitrogen isotopic composition of amino acids. *Scientific Reports* 7: 15932.

Zhao Y[#], **Nelson DM**, Clegg BF, An C-B, Hu FS. 2017. Carbon isotopic analysis on nanogram quantities of carbon from dissolved insect cuticle: a method for paleoenvironmental inferences. *Rapid Communications in Mass Spectrometry* 31: 1825–1834.

McLauchlan KK, Gerhart LM, Battles JJ, Craine JM, Elmore AJ, Higuera PE, Mack MC, McNeil BE, **Nelson DM**, Pederson N, Perakis SS. 2017. Centennial-scale reductions in nitrogen availability in temperate forests of the United States. *Scientific Reports* 7: 7856.

Elmore AJ, Craine JM, **Nelson DM**, Guinn SM. 2017. Continental scale variability of foliar nitrogen and carbon isotopes in *Populus balsamifera* and their relationships with climate. *Scientific Reports* 7: 7759.

Katzner TE, **Nelson DM**, Braham MA, Doyle JM, Fernandez NB, Duerr AE, Bloom PH, Fitzpatrick MC, Miller TA, Culver RCE, Braswell L, DeWoody JA. 2017. Golden eagle fatalities and the continental-scale consequences of local wind-energy generation. *Conservation Biology* 31: 406–415.

Elmore AJ, **Nelson DM**, Craine JM. 2016. Earlier springs are causing reduced nitrogen availability in North American eastern deciduous forests. *Nature Plants* 2: 16133.

Sabo RD[#], Scanga SE, Lawrence GB, **Nelson DM**, Eshleman KN, Zabala G[*], Alinea A[*], Schirmer C. 2016. Watershed-scale changes in terrestrial nitrogen cycling during a period of decreased atmospheric nitrate and sulfate deposition. *Atmospheric Environment* 146: 271–279.

Nelson DM, Urban MA[#], Kershaw P, Hu FS. 2016. Late-Quaternary variation in C_3 and C_4 grass

abundance in southeastern Australia as inferred from $\delta^{13}C$ analysis: Assessing the roles of climate, pCO_2, and fire. *Quaternary Science Reviews* 139: 67–76.

Sabo RD[#], **Nelson DM**, Eshleman KN. 2016. Episodic, seasonal, and annual export of atmospheric and microbial nitrate from a temperate forest. *Geophysical Research Letters* 43: 683–691.

Pylant CL[#], **Nelson DM**, Fitzpatrick MC, Gates JE, Keller SR. 2016. Geographic origins and population genetics of bats killed at wind-energy facilities. *Ecological Applications* 26: 1381–1395.

Urban MA[#], **Nelson DM**, Jiménez-Moreno G, Hu FS. 2016. Carbon isotope analyses reveal relatively high abundance of C_4 grasses during early-middle Miocene in southwestern Europe. *Palaeogeography, Palaeoclimatology, Palaeoecology* 443: 10–17.

Nelson DM, Braham M, Miller TA, Duerr AE, Cooper J, Lanzone M, Lemaître J, Katzner T. 2015. Stable hydrogen isotopes identify leapfrog migration, degree of connectivity, and summer distribution of Golden Eagles in eastern North America. *The Condor: Ornithological Applications* 117: 414–429.

Urban MA[#], **Nelson DM**, Street-Perrott FA, Verschuren D, Hu FS. 2015. A late-Quaternary perspective on atmospheric pCO_2, climate, and fire as drivers of C_4-grass abundance. *Ecology* 96: 642–653.

Pylant CL[#], **Nelson DM**, Keller SR. 2014. Stable hydrogen isotopes record the summering grounds of eastern red bats (*Lasiurus borealis*). *PeerJ* 2:e629.

Landesman WJ, **Nelson DM**, Fitzpatrick MC. 2014. Soil properties and tree species drive ß-diversity of soil bacterial communities. *Soil Biology and Biochemistry* 76: 201–209.

Nelson DM, Urban MA[#], Hu FS. 2014. Spatiotemporal variation in the origin of C_4 grasses: $\delta^{13}C$ analysis of grass pollen from the southeastern United States. *Palaeogeography, Palaeoclimatology, Palaeoecology* 396: 227–231.

Keller SR, Trott R, Pylant CL[#], **Nelson DM**. 2014. Genome-wide microsatellite marker development from next-generation sequencing of two non-model bat species impacted by wind turbine mortality: *Lasiurus borealis* and *L. cinereus* (Vespertilionidae). *Molecular Ecology Resources* 14: 435–436.

Urban MA[#], **Nelson DM**, Kelly R, Ibrahim T[*], Dietze M, Pearson A, Hu FS. 2013. A hierarchical Bayesian approach to the classification of C_3 and C_4 grass pollen based on SPIRAL $\delta^{13}C$ data. *Geochimica et Cosmochimica Acta* 121: 168–176.

Griener K[#], **Nelson DM**, Warny S. 2013. Declining moisture availability on the Antarctic Peninsula during the Late Eocene. *Palaeogeography, Palaeoclimatology, Palaeoecology* 383–384: 72–78.

Nelson DM, Henderson AK, Huang Y, Hu FS. 2013. Influence of terrestrial vegetation on leaf wax δD of Holocene lake sediments. *Organic Geochemistry* 56: 106–110.

Nelson DM, Verschuren D, Urban MA[#], Hu FS. 2012. Long-term variability and rainfall control of savanna fire regimes in equatorial East Africa. *Global Change Biology* 18: 3160–3170.

Nelson DM. 2012. Carbon isotopic composition of *Ambrosia* and *Artemisia* pollen: assessment of a C_3-plant paleophysiological indicator. *New Phytologist* 195: 787–793.

Tian J, **Nelson DM**, Hu FS. 2011. How well do sediment indicators record past climate? An evaluation using annually laminated sediments. *Journal of Paleolimnology* 45: 73–84.

Nelson DM, Cann IKO, Mackie RI. 2010. Response of archaeal communities in the rhizosphere of maize and soybean to elevated atmospheric CO_2 concentrations. *PLoS ONE* 5: e15897.

Henderson AK[#], **Nelson DM**, Hu FS, Huang YS, Shuman BN, Williams J. 2010. Holocene precipitation seasonality captured by a dual hydrogen and oxygen isotope approach at Steel Lake, Minnesota. *Earth and Planetary Science Letters* 30: 205–214.

Urban MA[#], **Nelson DM**, Jiménez-Moreno G, Châteauneuf J-J, Pearson A, Hu FS. 2010. Isotopic evidence of C_4 grasses in southwestern Europe during the Early Oligocene-Middle Miocene. *Geology* 38: 1091–1094.

Edwards EJ, Osborne CP, Strömberg CAE, Smith SA, C_4 Grasses Consortium (including **Nelson DM**). 2010. The origins of C_4 grasslands: merging evolutionary and ecosystem science. *Science* 328: 587–591.

Nelson DM, Cann IKO, Altermann E, Mackie RI. 2010. Phylogenetic evidence for lateral gene transfer in the intestine of marine iguanas. *PLoS ONE* 5: e10785.

Grimm EC, Maher LJ, **Nelson DM**. 2009. The magnitude of error in conventional bulk-sediment radiocarbon dates from central North America. *Quaternary Research* 72: 301–308.

Nelson DM, Glawe AJ[*], Labeda DP, Cann IKO, Mackie RI. 2009. *Paenibacillus tundrae* sp. nov. and *Paenibacillus xylanexedens* sp. nov., psychrotolerant, xylan-degrading, bacteria from Alaskan tundra. *International Journal of Systematic and Evolutionary Microbiology* 59: 1708–1714.

Mackie RI, **Nelson DM**, Wheeler E, Wikelski M, Cann IKO. 2008. Fermentative digestion in herbivorous lizards: bacterial population analysis in the intestinal tract of free-living land (*Conolophus pallidus*) and marine iguanas (*Amblyrynchus cristatus*) on the Galapágos archipelago. Pages 193–202 *in* S. Morris and A. Vosloo, eds. Molecules to Migration: The Pressures of Life. Medimond Publishing Co., Bologna, Italy.

Nelson DM, Hu FS. 2008. Patterns and drivers of Holocene vegetation change near the prairie-forest ecotone in Minnesota: revisiting McAndrews' transect. *New Phytologist* 179: 449–459.

Nelson DM, Hu FS, Scholes DR*, Joshi N*, Pearson A. 2008. Using SPIRAL (Single Pollen Isotope Ratio AnaLysis) to estimate C_3- and C_4-grass abundance in the paleorecord. *Earth and Planetary Science Letters* 269: 11–16.

Power MJ and 84 others (including **Nelson DM**). 2008. Changes in fire activity since the Last Glacial Maximum: an assessment based on a global synthesis and analysis of charcoal data. *Climate Dynamics* 30: 887–907.

Nelson DM, Hu FS, Mikucki J, Tian J, Pearson A. 2007. Carbon-isotopic analysis of individual pollen grains from C_3 and C_4 grasses using a spooling wire microcombustion interface. *Geochimica et Cosmochimica Acta* 71: 4005–4014.

Nelson DM, Ohene-Adjei S, Hu FS, Cann IKO, Mackie RI. 2007. Bacterial diversity and distribution in the Holocene sediments of a northern temperate lake. *Microbial Ecology* 54: 252–263.

Tian J, **Nelson DM**, Hu FS. 2006. Possible linkages of late-Holocene drought in the North American midcontinent to Pacific Decadal Oscillation and solar activity. *Geophysical Research Letters* 33: L23702.

Nelson DM, Hu FS, Grimm EC, Curry BBC, Slate J. 2006. The influence of aridity and fire on Holocene prairie communities in the eastern Prairie Peninsula. *Ecology* 87: 2523–2536.

Hu FS, **Nelson DM**, Clarke GH, Rühland K, Huang Y, Kaufman DS, Smol JP. 2006. Abrupt climatic events during the last glacial-interglacial transition in Alaska. *Geophysical Research Letters* 33: L18708.

Nelson DM, Hu FS, Michener RH. 2006. Stable-carbon isotope composition of Poaceae pollen: an assessment for reconstructing C_3 and C_4 grass abundance. *The Holocene* 16: 819–825.

Anderson LL, Hu FS, **Nelson DM**, Petit RJ, Paige KN. 2006. Ice-age endurance: DNA evidence of a white spruce refugium in Alaska. *Proceedings of the National Academy of Sciences of the United States of America* 103: 12447–12450.

Nelson DM, Hu FS, Tian J, Stefanova I, Brown TA. 2004. Response of C_3 and C_4 plants to middle-Holocene climatic variation near the prairie-forest ecotone of Minnesota. *Proceedings of the National Academy of Sciences of the United States of America* 101: 562–567.

Hu FS, Kaufman D, Yoneji S, **Nelson D**, Shemesh A, Huang Y, Tian J, Bond G, Clegg B, Brown T. 2003. Cyclic variation and solar forcing of Holocene climate in the Alaskan subarctic. *Science* 301: 1890–1893.

Hu FS, Lee BY, Kaufman DS, Yoneji S, **Nelson DM**, Henne PD. 2002. Response of tundra ecosystem in southwestern Alaska to Younger-Dryas climatic oscillations. *Global Change Biology* 8, 1–8.

GRANTS

First United Community Dreams Foundation, *Summer internships for undergraduates at the Appalachian Laboratory*, PI, 5/26-8/26. $**3,000**.

Appalachian Regional Commission, *Equipment for scientific research and training*, **PI**, 3/26-2/27. $**312,851**.

Maryland Energy Administration, *UMCES Appalachian Laboratory Electrification Project*, **PI**, 4/26-4/28. $**1,500,000**.

Maryland Department of the Environment, *Air quality measurements in western Maryland*, **PI**, 11/25-10/26. $**58,011**.

Maryland Department of Natural Resources, *Wet deposition in western Maryland*, **PI**, 7/25-6/27. $**34,991**.

Community Trust Foundation, *Summer internships for undergraduates at the Appalachian Lab*, **PI**, 6/25-8/25. $**14,400**.

Maryland Department of the Environment, *Air quality measurements in western Maryland*, **PI**, 11/24-10/25. $**58,078**.

National Science Foundation, MRI: Track 1: *Acquisition of instrumentation for ultra sensitive stable isotope measurements for environmental research, education and training in the central Appalachians*, **PI**, 10/24-9/27. $**355,668**.

Maryland Department of Natural Resources, *Wet deposition in western Maryland*, **PI**, 7/24-6/25. $**20,226**.

Appalachian Regional Commission, *Acquisition of a discrete analyzer system*, **PI**, 4/24-9/25. $**26,675**.

Maryland Energy Administration, *UMCES - AL 150.495 kW DC Rooftop Solar PV Array*, PI, 4/24-7/24. $**125,000**.

US Geological Survey, *Assessing vulnerability of California leaf-nosed bats to renewable energy development: diet analysis and spatial explicit demographic models to inform permitting and management decisions*, **PI**, 6/24-5/26. $**80,000**.

Appalachian Regional Commission, *Data network upgrade initiative: phase II,* **PI**, 1/23-12/26. $**110,000**.

Maryland Department of the Environment, *Air quality measurements in western Maryland*, **PI**, 11/23-10/24. $**60,558**.

Maryland Department of Natural Resources, *Evaluating the floral resource provisioning and ecological function of solar facility pollinator habitat plantings*, **co-PI** with R.T. Richardson (PI) and E.B. Cohen (co-PI). 7/23–6/25. $**95,546**.

USGS-MWRRC, *Assessing and understanding spatiotemporal variation in stable hydrogen and oxygen isotope values of Maryland's rivers*, **co-PI** with L.W. Cooper (PI) and K.N. Eshleman (co-PI), 9/23–8/24, $**50,000**.

Appalachian Regional Commission, *Data network upgrade initiative,* **PI**, 3/23-9/26. $**50,000**.

NSF (Population and Community Ecology Program), *Supplemental request for Collaborative Research: Mechanisms of tree population collapses in eastern North America: Disentangling causes of abrupt ecological change during the Holocene*, **PI**, 1/23–12/23, $**54,755**.

Sea Duck Joint Venture, *Identifying the diets and breeding areas of harvested juvenile sea ducks: a continued stable isotope investigation*, **PI**, 7/23–6/25, $**83,461**.

USGS-MWRRC, *Assessing and understanding spatiotemporal variation in stable hydrogen and oxygen isotope values of Maryland's rivers*, **PI** with L.W. Cooper and K.N. Eshleman, 10/22–9/23, $**69,004**.

NSF (Population and Community Ecology Program), *Supplemental request for mentoring and research experience for a U.S. veteran*, **PI**, 5/22-11/22, $**8,332**.

Maryland Department of Natural Resources, *Evaluating the floral resource provisioning and ecological function of solar facility pollinator habitat plantings*, **co-PI** with R.T. Richardson (PI) and E.B. Cohen (co-PI). 7/22–6/23. $**44,467**.

Maryland Sea Grant (Project development funds), *How does oligotrophication affect stream macroinvertebrate communities and food webs?*, **co-PI** with R. Hilderbrand (PI) and R. Woodland (co-PI), 11/21–10/22. $**12,142**.

Maryland Sea Grant, *Evaluating the effects of stormwater best management practices on nitrogen dynamics using stable isotopes*, **PI** with K.N. Eshleman and J.T. Bostic (co-PIs), 2/22–1/24, $**140,105**.

California Department of Fish and Wildlife, *Informing management and recovery of spotted owls through understanding movement and dispersal of barred owls*, **PI**, 3/22-2/25, $**195,977**.

US Geological Survey, *Geographic origin of trumpeter swans wintering in western states: implications for management of trumpeter swan populations and hunting seasons for tundra swans*, **PI**, 8/21–8/26, $**10,000**.

NSF (Evolutionary Processes Program), *Supplemental request for Collaborative Research: Evolutionary responses to climate change at range limits: adaptation, migration, and population size at the core, margin, and trailing edge*, **co-PI** with M.C. Fitzpatrick (PI), 6/21–7/22, $**54,287**.

NSF (Population and Community Ecology Program), *Supplemental request for a unique and high-quality mentoring and research experience in paleoecology for a U.S. veteran*, **PI**, 5/21–11/21, $**8,332**.

Wind Wildlife Research Fund, *Understanding interspecific differences between collision risk of male and female bats to inform minimization strategies*, **co-PI** with S. Weaver (PI) and A. Hale, S. Fritts, and T. Katzner (co-PIs), 3/21–3/23, $**46,988** to UMCES (overall project: $161,480).

US Geological Survey, *Range-wide demographic consequences of golden eagle fatalities in Wyoming*, **PI**, 10/20–9/22, $**48,000**.

Sea Duck Joint Venture, *Evaluating stable hydrogen isotopes for identifying breeding areas of harvested sea ducks*, **PI**, 9/20–8/22, $**39,937**.

NSF (Population and Community Ecology Program), *Collaborative Research: Mechanisms of tree population collapses in eastern North America: Disentangling causes of abrupt ecological change during the Holocene*, **PI**, 6/19–5/22, $**119,999** to UMCES. (overall project: $932,261).

US Fish and Wildlife Service, *Using novel biomarkers to assess geographic scale and demographic impacts on three species of tree-roosting bats killed at wind turbines*, **co-PI** with P. Gugger (PI). 1/18–1/21. $**246,407** to UMCES (overall project: $484,552).

NSF (Evolutionary Processes Program), *Collaborative Research: Evolutionary responses to climate change at range limits: adaptation, migration and population size at the core, margin, and trailing edge*, **co-PI** with M. Fitzpatrick and S. Keller (PIs), 7/17–6/20. $**509,644** to UMCES (overall project: $1,179,604).

Maryland Department of Natural Resources, *Population genomics and isotopic analysis of bats killed by wind turbines in the central Appalachians: continuation to enhance sampling*, **co-PI** with P. Gugger (PI), 7/16–6/19. $**40,000**.

Maryland Sea Grant, *Variation in retention and export of atmospheric nitrate as a function of land use across the Chesapeake Bay watershed*, **PI**, 2/16–1/18. $**149,361**.

Maryland Department of Natural Resources, *Population genomics of bats killed by wind turbines in the central Appalachians*, **co-PI** with P. Gugger (PI), 9/15–8/18. $**40,000**.

US Fish and Wildlife Service, *Geographic origins and population genetics and genomics of bats*

killed at wind-energy facilities in the Midwest, **PI**, 9/15–8/19. $**20,786**.

California Energy Commission, *Learning from real-world experience to understand renewable energy impacts to wildlife*, **co-PI** with T. Katzner (PI), S. Loss, T. Allison, J. Diffendorfer, and J. Yee, 8/15–12/18. $**44,942** to UMCES (overall project: $1,000,000).

US National Park Service, *Assessment of white-nose syndrome, geographic origin, and genetic diversity of bats at five national park units in western Pennsylvania*, **PI**, 7/15–6/17. **$146,191**.

Maryland Department of Natural Resources, *Assessing potential migration pathways and changes in effective population size of hoary bat populations in the central Appalachians*, **PI**, 10/14–6/16. **$40,000**.

NOAA Bay Watershed Education and Training, *Watershed Research Investigations: A student-teacher-scientist partnership to support healthy streams*, **co-PI** with C.D. Stylinski (PI) and A.J. Elmore, 9/14–8/17. $**240,249**.

Maryland Department of Natural Resources, *Sampling to support an isotopic and genetic assessment of red bats in Maryland*, **PI**, 4/14–12/15. **$25,000**.

Maryland Department of Natural Resources, *How representative are wind-turbine killed red bats of the broader population in Maryland? An isotopic and genetic assessment*, **PI**, 7/13–6/15. **$40,000**.

NSF (Plant Genome Research Program), *Combining genomics, remote sensing, and geospatial modeling to understand adaptation to growing season length in balsam poplar*, **co-PI** with S.R. Keller (PI), M.C. Fitzpatrick, A.J. Elmore and C.D. Stylinski, 1/13–12/16. $**1,495,713**.

NASA (Terrestrial Ecology Program), *Assessing the influence of local phenology on the response of forest productivity to changes in growing season length*, **co-PI** with A.J. Elmore (PI), 6/12–5/16. $**653,018**.

Maryland Department of Natural Resources, *Continuing Isotopic and Genetic Assessment of the Impacts of Wind-Turbine Mortality on Bat Populations in the Central Appalachians*, **PI**, 2/13–12/13. $**40,000**.

Maryland Department of Natural Resources, *A Preliminary Isotopic and Genetic Investigation of the Impacts of Wind-Turbine Mortality on Bat Populations in the Central Appalachians*, **PI**, 6/11–6/13. $**40,000**.

NSF (MRI-R^2), *Acquisition of a Shared Stable Isotope Ratio Mass Spectrometer for Ecological, Geological, Biogeochemical, and Hydrological Research, Education, and Training in the Central Appalachians*, **PI**, 12/09–11/11. $**434,273**.

National Geospatial Intelligence Agency, *Metagenomic Analysis of Spatial and Temporal Variation in the Composition of Soil Microbial Communities*, **PI**, 10/09–9/11 (no-cost extension

until 9/12). $**239,651**.

NSF (DEB-Ecology), *Fire, Atmospheric pCO_2, and Climate as Alternative Primary Controls of C_4-Grass Abundance: The Late-Quaternary Perspective*, **co-PI** with F.S. Hu (PI) and A. Pearson, 7/08–6/12. $**426,143**.

Campus Research Board, University of Illinois, *Elucidating the Origin of C_4 Photosynthesis: Carbon Isotope Analysis of Single Pollen Grains*, **co-PI** with F.S. Hu (PI), 1/08–12/08. $**12,745**.

USDA National Research Initiative Competitive Grant (Soil Processes), *Structure and Function of Archaeal Communities in the Rhizosphere of Corn and Soybean Under Current and Future Atmospheric Conditions*, **PI**, 11/07–6/10. $**125,000**.

Environmental Council, University of Illinois, *Analysis of the $\delta^{13}C$ Composition of Fossil Grass Pollen Grains*, SURE (Special Undergraduate Research Experience) support to student Neeraj Joshi, 2006–2007. $**1,400**.

Program in Ecology and Evolutionary Biology Summer Research Awards, University of Illinois, 2004–2005. $**2,250**.

Philip W. Smith Memorial Fund, University of Illinois, 2003. $**1,000**.

Francis M. and Harlie M. Clark Research Support Grants, University of Illinois, 2002–2004. $**3,500**.

Program in Ecology and Evolutionary Biology Conference Travel Grants, University of Illinois, 2002–2004. $**900**.

Graduate College Conference Travel Grant, University of Illinois, 2002. $**150**.

School of Integrative Biology Enhancement Fund (for Stable Isotope Ecology course at University of Utah), University of Illinois, 2002. $**760**.

Vander Velde Junior Scholar Research Grant, Trinity Christian College, 2000. $**1,000**.

INVITED SEMINARS OR WORKSHOPS

- Boise State University, 2025
- LaVale Lions Club, 2024
- Daughters of the American Revolution, Cresap (Maryland) chapter, 2023
- Sea Duck Joint Venture annual meeting, 2021
- Tallgrass Prairie & Oak Savanna Fire Science Consortium, 2021
- McDaniel College, 2019
- Davis College of Agriculture, Natural Resources and Design, West Virginia University, 2019
- Chesapeake Bay Program Modeling Workgroup, 2019

- Chesapeake Bay Program Forestry Workgroup, 2019
- Ohio Biodiversity Partnership Conference, 2017
- National Zoological Park, Smithsonian Institution, 2017
- Japanese Agency for Marine-Earth Science and Technology, Yokosuka, Japan, 2017
- Center for Ecological Research, Kyoto University, 2017
- Research Institute for Humanity and Nature, Kyoto, 2017
- US Fish and Wildlife Service, webinar on Advanced Topics in Conservation Genetics Webinar Series, 2016
- Graduate School of Environmental Sciences, Nagoya University, 2015
- Maryland DNR MANTA seminar series, 2014
- Department of Geology and Geophysics, Louisiana State University, 2011
- Chesapeake Biological Laboratory, UMCES, 2010
- Quaternary Paleoecology seminar series, University of Minnesota, Minneapolis, 2010
- Horn Point Laboratory, UMCES, 2009
- Department of Biology, West Virginia University, 2009
- Large Lakes Observatory, University of Minnesota, Duluth, 2009
- NESCent, C_4 Grass Evolution and Ecology Workshop, Durham, North Carolina, 2009
- Department of Biology, University of Utah, 2009
- Appalachian Laboratory, UMCES, 2008
- Department of Biological Sciences, University of Alaska, Anchorage, 2008
- Institute for Genomic Biology, University of Illinois, 2008
- School of Natural Resources, University of California, Merced, 2008
- Department of Biological Sciences, Wright State University, 2008
- Illinois State Museum, 2006
- Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, 2006
- Department of Earth and Planetary Sciences, Harvard University, 2006
- Climate, People, and Environment Program, University of Wisconsin, Madison, 2005

PRESENTATIONS AT INTERNATIONAL/NATIONAL MEETINGS

Oral

Ibrahim N, **Nelson DM**, Buckardt A, Bryant J, Dressel D, Gower CN, Ivey G, Journey J, Kiss BW, Kristof A, Knetter JM, Lonner B, Long W, Murchison CR, Proett M, Reishus B, Snoddy L, Sanders TA, Stringham B, Vritska M, Woolstenhulme R, Zimmerman D, Katzner TE. 2026. Geographic origins of hunted trumpeter swans: Stable isotope evidence to inform conservation management. American Ornithological Society-Amherst, MA.

Ibrahim N, **Nelson DM**, Katzner TE. 2026. Geographic origins of hunted trumpeter swans: Stable isotope evidence to inform conservation management. 2026 Pacific Flyway Study Committee. Virtual Presentation.

Katzner TE, McGrady MJ, Fuller K, Buij R, Ali Al-Obedi L, Habib M, El Moghrabi L, Al Sayed

Omar O, Quaneer T, Abu Said M, Aktay S, Suliman A, Sarrouf-Wilson M, **Nelson DM**, Ibrahim N, Endyke SC, Miller TA. 2026. Trade of birds from across Europe is widespread and impactful throughout the Middle East. American Ornithological Society- Amherst, MA.

SC Endyke, **Nelson DM**, Fitzpatrick M, Bataille C, Katzner TE. 2026. A sulfur isoscape for improving assessment of bird movement in North America. American Ornithological Society- Amherst, MA.

Katzner TE, **Nelson DM**, Marques AT, Voigt C, Lambertucci S, Rebolo N, Bernard E, Diehl R, Murgatroyd M. 2025. Impacts of onshore wind-energy production on biodiversity. Conference on Wind Energy and Wildlife- Montpellier.

Weaver SP, Hale AM, **Nelson DM**, Fritt SR, Katzner T, Chipps AS, Korstian JM, LiCari ST, Nagel J, Williams DA. 2025. Spatiotemporal patterns in sex ratios of bat fatalities at wind energy facilities in the United States. Texas Chapter of The Wildlife Society- Denton, TX.

O'Hara G, **Nelson DM**, Eshleman KN. 2024. Using stable isotopes ($\delta^{15}N$, $\delta^{18}O$, $\Delta^{17}O$) to evaluate sources and cycling of nitrate in suburban Maryland watersheds. Maryland Water Monitoring Council- North Linthicum, MD.

Williams J, Asena W, Ives T, Johnson J, **Nelson D**, Ray-Cozzens T, Schlenker N, Shuman B, Toomey A, S. Wiles. 2024. Drivers of forest compositional change in the Great Lakes region during the Holocene: Testing hypotheses about hydroclimate, fire, and biotic Interactions. American Geophysical Union- Washington D.C.

Conkling TJ, Duerr AE, Endyke SC, Miller TA, Millsap BA, **Nelson DM**, Vander Zanden HB, Zimmerman GS, Katzner TE. 2024. Regional vulnerability of golden eagles to renewable Energy production. Wind Wildlife Research Meeting- Corpus Christi, TX.

Endyke, SC, **Nelson DM**, Cohen E, Martin K, Vander Zanden H, Katzner TE. 2024. Stable isotopes identify migratory connectivity for heavily harvested sea duck populations. American Ornithological Society- Estes Park, CO.

Conkling TJ, Duerr AE, Endyke SC, Miller TA, Millsap BA, **Nelson DM**, Vander Zanden HB, Zimmerman GS, Katzner TE. 2023. Vulnerability of golden eagles to renewable energy production. American Ornithological Society- Estes Park, CO.

Campbell CJ, **Nelson DM**, Nagel, J, Clerc J, Guralnick R, Vander Zanden HB. 2023. Migration is a key factor driving distribution and interactions with energy development in at-risk bats. North American Society for Bat Research- Winnipeg, Manitoba.

Williams JW, Wiles S, **Nelson D**, Shuman BN. 2023. Ecotonal populations show higher compositional variability during Holocene shifts of the Michigan Tension Zone. Geological Society of America- Pittsburgh, PA.

Conkling TJ, Vander Zanden HB, **Nelson DM**, Duerr AE, Katzner TE. 2023. Vulnerability of Caprimulgiformes populations to fatalities at wind energy facilities. Renewable Energy Wildlife Symposium.

Conkling TJ, Duerr AE, Miller TA, Millsap BA, **Nelson DM**, Vander Zanden HB, Zimmerman GS, Katzner TE. 2023. Vulnerability of golden eagle populations to fatalities at wind energy facilities. Conference on Wind Energy and Wildlife Impacts- Sibenik, Croatia.

Hale A, Weaver S, LiCari S, Fritts S, Katzner T, **Nelson D**, Williams D. 2023. Understanding interspecific differences in collision fatality of male and female bats to inform minimization strategies. Western Bat Working Group- British Columbia.

Bjerrum CJ, Wellman CH, **Nelson DM**, Pearson A, Beerling, DJ. 2023. Low and rising atmospheric carbon dioxide during the evolution of aerosols from land plants. Goldschmidt- Lyon, France.

Katzner T, **Nelson D**, Conkling T, Poessel S. 2022. Movement and demography of trumpeter swans: information to support management of the Rocky Mountain Population. 7th International Swan Symposium & 26th Trumpeter Swan Society Conference- Jackson, WY.

Conkling T, Vander Zanden H, Allison T, Diffendorfer J, Dietsch T, Duerr A, Fesnock A, Hernandez R, Loss S, **Nelson D**, Sanzenbacher P, Yee J, Katzner T. 2022. Vulnerability of avian populations to renewable energy production. The Wildlife Society, Annual Meeting- Spokane, WA.

Korasidis V, Wing S, **Nelson DM**, Bacynski AA. 2022. Reworked pollen reduces apparent floral change during the Paleocene-Eocene thermal maximum (PETM). Conference on Climatic and Biotic Events of the Paleogene- Bremen, Germany.

Conkling TJ, Vander Zanden HB, **Nelson DM**, Duerr AE, Katzner TE. 2022. Vulnerability of common nighthawk populations to fatalities at wind energy facilities. Wind Wildlife Research Meeting.

Conkling TJ, Vander Zanden HB, Allison TD, Diffendorfer JE, Dietsch TV, Duerr AE, Fesnock AL, Hernandez RR, Loss SR, **Nelson DM**, Sanzenbcher PM, Yee JL, Katzner TE. 2022. Vulnerability of avian populations to wind energy production. The Wildlife Society conference.

Conkling TJ, Vander Zanden HB, Allison TD, Diffendorfer JE, Dietsch TV, Duerr AE, Fesnock AL, Hernandez RR, Loss SR, **Nelson DM**, Sanzenbcher PM, Yee JL, Katzner TE. 2022. Vulnerability of avian populations to wind energy production. Conference of Wind Energy and Wildlife Impacts.

Schlenker N, Williams JW, Shuman BN, **Nelson D**, Ray-Cozzens T, and Johnson, J.

2021. Patterns and drivers of abrupt collapses of mesic tree populations in the US Great Lakes region: Initial results. International Biogeography Society conference.

Vander Zanden HB, **Nelson DM**, Conkling TJ, Allison TD, Diffendorfer JE, Culver RCE, Dietsch TV, Fesnock AL, Loss SR, Ortiz PA, Paulman R, Rogers KH, Sanzenbcher PM, and Katzner TE. 2021. The geographic extent of birds affected by solar energy in California. American Wind Wildlife Institute Solar symposium.

Conkling TJ, Vander Zanden HB, Allison TD, Diffendorfer JE, Dietsch TV, Duerr AE, Fesnock AL, Hernandez RR, Loss SR, **Nelson DM**, Sanzenbcher PM, Yee JL, Katzner TE. 2021. Vulnerability of avian populations to solar energy production. American Wind Wildlife Institute Solar symposium.

Korasidis V, Wing S, **Nelson DM**, Bacynski AA, Harrington G. 2021. Reworked pollen reduces apparent floral change during the Paleocene-Eocene thermal maximum. Geological Society of America annual meeting- Portland, OR.

Conkling TJ, Vander Zanden HB, Allison TD, Diffendorfer JE, Dietsch TV, Duerr AE, Fesnock AL, Hernandez RR, Loss SR, **Nelson DM**, Sanzenbcher PM, Yee JL, Katzner TE. 2021. Vulnerability of raptor populations to wind energy production. Raptor Research Foundation Annual Conference- Boise, Idaho.

Campbell CJ, Fitzpatrick MC, Vander Zanden HB, **Nelson DM**. 2021. The R package 'isocat', a toolset for comparing and summarizing origins of animals from stable isotope data. IsoEcol- virtual.

Katzner TE, Conkling TJ, Ortiz TA, **Nelson DM**, Miller TA, Crandall R, Preston C, Anco C, Wallace Z, Lockhart MJ. 2020. Range-wide demographic consequences of golden eagle fatalities in Wyoming. Wyoming Golden Eagle Working Group Meeting- virtual.

Bostic J, **Nelson DM**, Eshleman KN. 2020. Downpour dynamics: Nitrate export during storm events. American Geophysical Union- virtual.

Katzner TE, Braham MA, Conkling TJ, Diffendorfer JE, Duerr AE, Loss SR, **Nelson DM**, Vander Zanden HB, Yee, JL. 2020. Assessing population-level consequences of wind energy on birds. NWCC Wind Wildlife Research Meeting- virtual.

Conkling, TJ, Vander Zanden HB, Diffendorfer JE, Duerr AE, Loss SR, **Nelson DM**, Yee JL, Katzner TE. 2020. Demographic impact of avian fatalities at wind energy facilities. NWCC Wind Wildlife Research Meeting- virtual.

Katzner, T, Braham M, Conkling T, Diffendorfer J, Duerr A, Loss S, **Nelson D**, Vander Zanden H, Yee J. 2019. Assessing population-level consequences of anthropogenic stressors on raptors. Raptor Research Foundation Annual Conference- Ft. Collins, Colorado.

Fesnock, A, Allison T, Braham M, Duerr A, Loss S, **Nelson DM**, Vander Zanden HB, Conkling TJ, Diffendorfer J, Yee Y, Katzner TE. 2019. Bird conservation and solar energy conflict resolution in the California desert. The Wildlife Society- Reno, NV.

Conkling TJ, Vander Zanden HB, Allison TD, Diffendorfer J, Duerr A, Loss S, **Nelson DM**, Yee J, Katzner TE. 2019. Demographic impact of avian fatalities at wind energy facilities. Conference on Wind Energy and Wildlife Impacts- Stirling, Scotland.

Campbell CJ and **Nelson DM**. 2019. Hydrogen isotopes reveal complex seasonal migratory structure in at-risk tree-roosting bats in North America. International Congress for Conservation Biology- Kuala Lampur- Malaysia.

Duerr A, Bell D, Belthoff J, Bloom P, Braham M, Bjerre E, DeWoody A, Doyle J, Dunn L, Fernandez N, Fisher R, Fitzpatrick M, Miller T, Millsap B, **Nelson D**, Poessel S, Sur M, Tracey J, Katzner T. 2019. Update on Research on Golden Eagles. California-Nevada Golden Eagle Working Group- Sacramento, CA.

Urban MA, **Nelson DM**, Clegg B, Romero I, Zhao Y, Punyasena SW, Hu FS. 2018. SWIM-IRMS: Methods in exploring isotope composition in microfossils, and its application in paleoecology. Geological Society of America- Indianapolis, IN.

Nelson DM, Nagel J, Trott R, Campbell CJ, Pruitt L, Good RE, Iskali G, Gugger PF. 2018. Carcass age and searcher identity affect morphological assessment of sex of bats. NWCC Wind Wildlife Research Meeting- Minneapolis, MN.

Conkling TJ, Vander Zanden HB, Diffendorfer J, Duerr A, Loss S, **Nelson DM**, Yee J, Katzner TE. 2018. Demography of birds killed at wind energy facilities. NWCC Wind Wildlife Research Meeting- Minneapolis, MN.

Vander Zanden HB, **Nelson DM**, Conkling TJ, Katzner TE. 2018. A wildlife forensics approach to characterize the geographic footprint of California wind energy effects on avian populations. NWCC Wind Wildlife Research Meeting- Minneapolis, MN.

Reid A, Vander Zanden HB, **Nelson DM**, Katzner TE. 2018. Implications for using singed feathers in determining geographic origin with wildlife forensics approaches. Association of Field Ornithologists and the Wilson Ornithological Society- Chattanooga, TN. *Won AFO student presentation award.

Vander Zanden HB, **Nelson DM**, Conkling TJ, Katzner TE. 2018. The geographic extent of solar energy effects on California avian populations. IsoEcol conference- Viña del Mar, Chile.

Vander Zanden HB, **Nelson DM**, Conkling TJ, Katzner TE. 2018. The geographic footprint of California solar energy effects on bird populations. American Ornithological Society- Tuscon, AZ.

Conkling TJ, Vander Zanden HB, Diffendorfer JE, Duerr AE, Loss ST, **Nelson DM**, Katzner TE. 2018. Demography of birds killed at solar energy facilities. American Ornithological Society- Tuscon, AZ.

Campbell CJ, Fitzpatrick MC, **Nelson DM**. 2017. Range-wide migratory patterns of North American tree-roosting bats. North American Society for Bat Research- Knoxville, TN.

Nelson DM, Tsunogai U, Ohyama T, Komatsu DD, Nakagawa F, Noguchi I, Yamaguchi T. 2017. Triple oxygen isotopes indicate that urbanization causes differences in the sources of nitrate between dry and wet atmospheric deposition. Joint meeting of Japan Geophysical Union and American Geophysical Union- Chiba, Japan.

Elmore AJ, **Nelson DM**, Craine JM. 2016. Dendrophenology: Inferring the response of North American eastern deciduous forests to an earlier spring from tree rings. American Geophysical Union- San Francisco, CA.

Nelson DM, Pylant CL, Fitzpatrick MC, Gates JE, and Keller SR. 2016. Geographic origins and population genetics of bats killed at wind-energy facilities. International Bat Research Symposium- Winter Harbor, Maine. (invited)

Nelson DM, Katzner T, Braham M, Doyle J, Fernandez N, Duerr A, Bloom P, Fitzpatrick MC, Miller T, DeWoody A. 2016. Golden eagle fatalities demonstrate the continental-scale environmental consequences of local-scale renewable energy development. IsoEcol conference- Tokyo, Japan.

Scanga S, Sabo R, Lawrence G., Zabala G, Alinea A, Schirmer C, **Nelson DM**, Eshleman K. 2015. Long-term changes in ecosystem nitrogen availability and nitrate export in two neighboring watersheds in the Adirondack Mountains, New York (USA). Acid Rain 2015- Rochester, NY.

Katzner T, **Nelson DM**, Braham M, Doyle J, Fernandez N, Duerr A, Bloom P, Fitzpatrick MC, Miller T, DeWoody A. 2015. Origins of eagles killed at the Altamont Pass Wind Resource Area: Continental-scale environmental consequences of local-scale renewable energy development. Raptor Research Foundation conference- Sacramento, CA.

Zabala GA, Sabo R, Scanga SE, Lawrence GB, Alinea AA, Schirmer CD, **Nelson DM**, Eshleman KN. 2015. Long-term changes in ecosystem nitrogen availability and nitrate export in two neighboring watersheds in the Adirondack Mountains. Ecological Society of America- Baltimore, MD.

Nelson DM, Kelly R, Tian J, Chipman M, Hu FS. 2015. Extrinsic and intrinsic forcing of regime shifts: a 3,000-year record of climate and lake-productivity changes in Minnesota. Ecological Society of America- Baltimore, MD. (invited)

Sabo R, **Nelson DM**, Eshleman KN. 2015. Hydrobiogeochemical control of temporal variation in atmospheric nitrate export from a temperate forest watershed. Ecological Society of

America- Baltimore, MD.

Landesman WJ, **Nelson DM**. 2015. Temporal dynamics of soil microbial communities over hourly, daily and seasonal scales. Ecological Society of America- Baltimore, MD.

Nelson DM, Tian J, Chipman M, Hu FS. 2015. Evaluating climate controls of aquatic proxy indicators: a case study using multi-proxy analyses of sediment-trap samples and annually laminated sediments. International Union for Quaternary Research XXIV Congress- Nagoya, Japan. (invited)

Nelson DM, Urban MA, Hu FS. 2014. Spatiotemporal variation in the environmental controls of C_4-grass origin and ecology: Insights from grass-pollen $\delta^{13}C$ data. American Geophysical Union- San Francisco, CA.

Pylant CL, **Nelson DM**, Fitzpatrick MC, Gates JE, Keller SR. 2014. Geographic origin and population size and structure of bats experiencing mortality at wind energy facilities in the central Appalachians. NWCC Wind Wildlife Research Meeting X- Denver, CO.

Katzner T, **Nelson DM**, Braham M, Doyle J, DeWoody A, Bloom P, Duerr A, Miller T. 2014. Origins of eagles killed at the Altamont Pass Wind Resource Area. NWCC Wind Wildlife Research Meeting X- Denver, CO.

Gill J, Jackson S, Goring SJ, Grimm EC, Mueller P, **Nelson DM**, Williams JW. 2014. Ecological novelty in space and time: Pattern, process, and the drivers of late-glacial no-analog plant associations. Ecological Society of America- Sacramento, CA.

Nelson DM. 2014. Stable isotopes and eastern golden eagles. Eastern golden eagle working group- Davis, WV.

Katzner T, **Nelson DM**, Braham M, Doyle J, Bloom P, Miller T, Duerr A, DeWoody A. Miller T. 2014. Origins of eagles killed at the Altamont Pass Wind Resource Area. The Western Section of The Wildlife Society - Reno, NV.

Urban MA, **Nelson DM**, Hu FS. 2013. A hierarchical Bayesian approach to the classification of C_3 and C_4 grass pollen based on the $\delta^{13}C$ data of individual pollen grains. Geological Society of America- Denver, CO.

Landesman WJ, **Nelson DM**, Fitzpatrick M. 2013. Metagenomic study of soil microbial community composition in relation to tree species, soil properties and geographic distance. Soil Ecology Society- Camden, NJ.

Gill, J, Jackson S, Goring SJ, Grimm EC, Mueller P, **Nelson DM**, Williams J. 2013. Novelty in space and time: linking pattern and process to understand the drivers of late-glacial no-analog plant associations. International Biogeography Society- Miami, FL.

Griener K, Warny S, **Nelson DM**. 2012. Declining moisture availability in late Eocene

Antarctica as deduced from *Nothofagus* sporopollenin $\delta^{13}C$. American Geophysical Union- San Francisco, CA.

Nelson DM. 2012. Assessment of the carbon stable isotope composition of pollen as an ecophysiological indicator in the paleorecord. XIII IPC/XI IOPC, Tokyo. (invited)

Landesman, WJ, **Nelson DM**. 2012. Metagenomic analysis of soil microbial communities at multiple spatial scales: assessing the relative importance of soil properties and plant type. Ecological Society of America- Portland, OR.

Nelson DM. 2012. Impacts of Holocene climate variability on vegetation dynamics near the prairie-forest border in north-central Minnesota: research progress and prospects. American Quaternary Association- Duluth, MN. (invited)

Urban MA, **Nelson DM**, Verschuren D, Hu FS. 2012. The effects of fire, climate, and pCO_2 on C_4 grass abundance in equatorial East Africa: an evaluation of the C_4-fire hypothesis. Ecological Society of America- Portland, OR.

Griener K, Warny S, **Nelson DM**, Raine JI, Askin RA. 2012. Combining a new method in carbon isotopic analysis with standard palynological methods to quantify Neogene Antarctic climate change. American Association of Petroleum Geologists annual meeting.

Urban MA, **Nelson DM**, Verschuren D, Hu FS. 2011. How fire, pCO_2, and climate control C_3/C_4 variation: a late-Quaternary perspective from equatorial East Africa. Geological Society of America- Minneapolis, MN.

Griener K, Warny S, **Nelson DM**, Raine JI, Askin RA. Coupled palynological and carbon isotopic analyses of *Nothofagus* to quantify Neogene Antarctic climate change. 2011. Geological Society of America- Minneapolis, MN.

Griener K, Warny S, **Nelson DM**, Raine JI, Askin RA. Quantification of aridity changes in Neogene Antarctic paleoenvironments using morphologic and carbon isotopic analyses of pollen. 2011. International Symposium on Antarctic Earth Sciences. Edinburgh, Scotland.

Nelson DM, Urban MA, Verschuren D, Hu FS. 2011. Using SPIRAL (Single Pollen Isotope Ratio AnaLysis) to elucidate grassland responses to environmental change during the late Quaternary and beyond. International Union for Quaternary Research XXVIII Congress- Bern, Switzerland. (invited)

Urban MA, **Nelson DM**, Verschuren D, Hu FS. 2010. Linking grassland fire-regime shifts to climatic variation of the past 25,000 years: Charcoal records from two East African lakes. Ecological Society of America- Pittsburgh, PA.

Nelson DM, Grimm EC. 2010. Trends in the Holocene climate, vegetation, and fire history of

grasslands in the Midwest and Northern Great Plains, U.S.A. Symposia: Pondering the Future by Peering into the Past: Integrating Paleoecology and Contemporary Research to Predict Grassland and Shrubland Responses to Climate Change. Ecological Society of America- Pittsburgh, PA. (invited)

Nelson DM. 2010. $\delta^{13}C$ analysis of single grass-pollen grains: a new tool for investigating the ecology and evolution of C_4 grasses in paleorecords. Midcontinent Paleobotany Colloquium- Frostburg, MD.

Nelson DM, Cann IKO, Mackie RI. 2009. Metagenomic analysis of microbial community structure in the rhizosphere of maize and soybean under current and future atmospheric CO_2 concentrations. Organized oral session: Missing Links in the Root-Soil Organic Matter Continuum. Ecological Society of America- Albuquerque, NM.

Urban MA, **Nelson DM**, Pearson A, Hu FS. 2009. When did C_4 photosynthesis evolve? New evidence from $\delta^{13}C$ analysis of single grass-pollen grains. Ecological Society of America- Albuquerque, NM.

Mackie RI, **Nelson DM**, Wheeler E, Wikelski M, Cann IKO. 2008. Fermentative digestion in herbivorous lizards: bacterial population analysis in the intestinal tract of free-living land (*Conolophus pallidus*) and marine iguanas (*Amblyrynchus cristatus*) on the Galapagos archipelago. MARA- Kenya.

Nelson DM, Hu FS, Pearson A. 2007. Stable carbon isotope ratios of individual pollen grains as a proxy for C_3- versus C_4-grass abundance in paleorecords: a validation study. American Geophysical Union- San Francisco, CA.

Nelson DM, Hu FS, Pearson A. 2006. Carbon isotopic analysis of individual pollen grains from C_3 and C_4 grasses using a moving-wire combustion interface. American Geophysical Union- San Francisco, CA.

Grimm EC and **Nelson DM**. 2006. Vegetation and Climate in Illinois: PaleoIndian to Historic. Midwest Archaeological Conference. Urbana, IL.

Nelson DM and Hu FS. 2004. How climate and vegetation interact to control the fire regime on the northern Prairie Peninsula. Symposia: Cultural and Environmental Controls of Past Fire Regimes. Ecological Society of America- Portland, OR. (invited)

Nelson DM and Hu FS. 2004. Dynamics of middle-Holocene climate, vegetation, and fire on the northern Prairie Peninsula. American Quaternary Association- Lawrence, KS. (invited)

Curry BB, Grimm EC, **Nelson DM**, Slate JE, Greenberg SE, Scott JW. 2004. Contrasting hydrological responses to Holocene climate at Nelson Lake and Crystal Lake, northeastern Illinois. American Quaternary Association- Lawrence, KS.

Nelson DM, Hu FS, Tian J, Brown TA, Stefanova I, Wright HE Jr. 2003. Response of C_3/C_4 plants to mid-Holocene aridity in west-central Minnesota. Ecological Society of America- Savannah, GA.

Nelson DM, Tian J, Hu FS. 2002. Mid-Holocene C_3/C_4 variations in Minnesota as inferred from charcoal $\delta^{13}C$ records. International Paleo-Grasslands Conference- St Cloud, MN.

Poster

Weaver SP, Hale AM, **Nelson DM**, Fritt SR, Katzner T, Chipps AS, Korstian JM, LiCari ST, Nagel J, Williams DA. 2025. Spatiotemporal patterns in sex ratios of bat fatalities at wind energy facilities in the United States. Conference on Wind Energy and Wildlife- Montpellier.

Ali, S, Cooper LW, **Nelson DM**, Eshleman KN. 2024. Assessing and understanding spatiotemporal variation in stable hydrogen and oxygen isotope values of Maryland's rivers. American Geophysical Union- Washington D.C.

Johnson, JW, Henne P, Hu FS, Shuman B, Williams JW, **Nelson DM**. 2024. Landform and snowbelt influences on Holocene wildfires in the upper Great Lakes region. American Geophysical Union- Washington D.C.

Ali, S, Cooper LW, **Nelson DM**, Eshleman KN. 2024. Assessing and understanding spatiotemporal variation in stable hydrogen and oxygen isotope values of Maryland's rivers. AGU Water Science Conference- St. Paul, MN.

Ali, S, Cooper LW, **Nelson DM**, Eshleman KN. 2023. Assessing and understanding spatiotemporal variation in stable hydrogen and oxygen isotope values of Maryland's rivers. Maryland Water Monitoring Council- North Linthicum, MD.

Stansfield AR, Booth RK, **Nelson DM**, Johnson JJ. 2023. Increased phototrophy in testate amoebae associated with recent warming on Alaska's North Slope. Ecological Society of America- Portland, OR.

LiCari ST, Weaver S, Fritts S, Hale A, Katzner T, **Nelson DM**, Williams, D. 2022. Sex ratios of Mexican Free-Tailed Bat Fatalities at wind-energy facilities for local and long-range migratory populations. Texas Chapter of the Wildlife Society- Houston, TX.

Schlenker N, Johnson J, Ray-Cozzens T, **Nelson D**, Shuman BN, Williams, J. 2022. Patterns and drivers of abrupt changes in mesic tree populations at Story Lake, Indiana. American Geophysical Union- Chicago, IL.

Johnson JW, **Nelson DM**, Shuman BN, Ray-Cozzens T, Williams JW, Stefanova I. 2022. Assessing the controls of abrupt shifts in mesic tree abundances during the past 8,000 years at Sunfish Pond, Pennsylvania. American Geophysical Union- Chicago, IL.

Weaver S, Fritts S, Hale A, Katzner T, LiCari S, **Nelson D**, Williams D. 2022. Understanding interspecific differences in collision mortality of male and female bats to inform minimization strategies. Wind Wildlife Research Meeting.

Nagel J, Carstens BC, Gibbs HL, Wieringa JG, **Nelson DM**. 2022. Range-wide population structure of hoary bats, eastern red bats, and silver-haired bats. North American Society for Bat Research- Austin, Texas.

Trumper M, Griffin D, Hobbie SE, Howard I, **Nelson DM**, Reich PB, McLauchlan KK. 2019. Tree-ring nitrogen isotopes show no direct response to fire frequency from a 55-year prescribed burn experiment in oak savanna. American Geophysical Union- San Francisco, CA.

Thibault E, **Nelson DM**, Fitzpatrick MC, Parducci L, Keller S. 2019. Sampling ancient DNA from fossil tree pollen to directly analyze how shifting range limits impacted population abundance and connectivity. Evolution 2019- Providence, RI.

Northern Garrett High School Students, Kenyon-Sisler R, Elmore AJ, Doty C, **Nelson DM**, Bostic J, Stylinski CD. 2018. Four years of student-teacher-and-researcher (star) project data measuring sources of nitrogen pollution on schoolyards in western Maryland. Maryland Water Monitoring Council- North Linthicum, MD.

Robins Martin K, Harir M, Bostic J, **Nelson D**, Harris L, Heyes A, Schmitt-Kopplin P, Gonsior M. 2018. Molecular characterization of dissolved organic matter in septic-impacted streams: Identifying novel wastewater tracers. American Geophysical Union- Washington DC.

Bostic J, **Nelson DM**, Eshleman KN. 2018. Quantifying watershed export of atmospheric nitrate across land-uses using triple oxygen isotopes. American Geophysical Union- Washington DC.

Sebestyen SD, Ross DS, Shanley JB, Elliott EM, Kendall C, Campbell DL, Dail B, Shattuck MD, Fernandez IJ, Goodale CL, Lawrence GB, Lovett GM, McHale PJ, Mitchell MJ, Nelson SJ, Wickman TR, Barnes RT, Buda AR, Bostic JT, Burns DA, Eshleman KN, Finlay JC, **Nelson DM**, Ohte N, Pardo LH, Rose LA, Sabo RD, Schiff SL, Spoelstra J, Williard KWJ. 2018. A database of nitrate isotopes in waters of the Northern Forest region in the USA and Canada. American Geophysical Union- Washington DC.

Moore, H, Kenyon-Sisler R, Elmore AJ, Doty C, **Nelson DM**, Bostic J, Stylinski CD. 2017. Fingerprinting sources of nitrogen pollution on schoolyards in western Maryland. Maryland Water Monitoring Council- North Linthicum, MD.

Bostic J, **Nelson DM**, Eshleman KN. 2017. Assessing the role of land use in watershed nitrate export using triple oxygen isotopes. American Geophysical Union- New Orleans, LA.

Campbell CJ, Fitzpatrick MC, **Nelson DM**. 2017. Range-wide migratory movements of North American tree bats inferred from stable isotopes. Ecological Society of America-

Portland, OR.

McLauchlan KK, Gerhart LM, Battles JJ, Craine JM, Elmore A, Higuera PE, Mack MC, McNeil BE, **Nelson DM**, Pederson N, Perakis SS, Springer CJ. 2017. Centennial-scale reductions in nitrogen availability in temperate forests of the United States. Annual meeting of the American Association of Geographers- Boston, MA.

Housera C, Ruggieroa J, Whitea G, Elmore AJ, Kenyon-Sisler R, Doty C, **Nelson DM**, Bostic J, Stylinski CD. 2016. Fingerprinting sources of nitrogen pollution on schoolyards in western Maryland. Maryland Water Monitoring Council- North Linthicum, MD.

Campbell CJ, **Nelson DM**, Ogawa NO, Chikaraishi Y, Okhouchi N. 2016. Amino acid nitrogen isotopes reveal the trophic position and dietary strategies of bats. North American Society for Bat Research- San Antonio, TX.

Gerhart LM, McLauchlan KK, Battles JJ, Craine JM, Higuera PE, Mack MC, McNeil BE, **Nelson DM**, Pederson N, Perakis SS, Springer CJ. 2016. Reconstructing century-scale changes in nitrogen cycling in forests throughout the United States using tree-ring $\delta^{15}N$ chronologies. American Geophysical Union- San Francisco, CA.

Zhou Y, **Nelson DM**, Clegg BF, Berry J, Hu FS. 2016. A new method for carbon isotopic analysis of nanogram quantities of carbon from dissolved chitin using a spooling-wire microcombustion interface. American Geophysical Union- San Francisco, CA.

Campbell CJ, **Nelson DM**, Gugger PF. 2016. A continent-wide approach to link movement ecology and genetic structure of migratory foliage-roosting bats. Northeast Bat Working Group meeting- Baltimore, MD.

Sabo R, **Nelson DM**, Eshleman KN. 2015. Forest response to declining atmospheric N deposition: Insights from merging the kinetic N saturation conceptual model with the N flush hypothesis. Gordon Research Conference- Andover, NH.

Cunningham V, **Nelson DM**, Elmore AJ. 2015. Assessing the influence of landscape factors and ecosystem processes on the stability of growing-season canopy greenness in a deciduous forest. Ecological Society of America- Baltimore, MD.

Urban MA, **Nelson DM**, Jimenez-Moreno G, Hu FS. 2014. Spatiotemporal variation in C_4-grass abundance during the early to middle Miocene in Spain. American Geophysical Union- San Francisco, CA.

Pylant, CL, **Nelson DM**, Keller SR. 2014. Stable isotope and genetic tools for investigating the impacts of wind-turbine mortality on Lasiurine tree bats. NWCC Wind Wildlife Research Meeting X- Denver, CO.

Nelson DM, Katzner T, Miller TA, Duerr AE, Cooper J, Lanzone M, Wheeler M, Brandes D. 2013. Assessing the movements and diets of golden eagles in eastern North America

using stable isotope and telemetry data. Ecological Society of America- Minneapolis, MN.

Urban MA, **Nelson DM**, Kersaw P, Hu FS. 2013. Long term controls of fire, climate and pCO_2 on C_4 grass abundance in southeastern Australian grasslands. Ecological Society of America- Minneapolis, MN.

Plyant CL, **Nelson DM**, Keller SR, Fitzpatrick MC, Gates JE. 2013. Assessing regional sources of bat mortality at wind turbine sites using stable isotopes and population genetics. Ecological Society of America- Minneapolis, MN.

Griener K, **Nelson DM**, Warny S. 2012. Carbon isotopic analysis of Southern beech (*Nothofagus*) pollen reveals shifts in Antarctic hydrology during the late Eocene. XIII IPC/XI IOPC, Tokyo.

Paulman R and **Nelson DM**. 2011. Identifying the sources and transformations of nitrogen in streams using $\delta^{15}N$ and $\delta^{18}O$ of nitrate. Maryland Streams Symposium. Westminster, MD.

Landesman, WJ, **Nelson DM**, Gardner, R. 2010. Metagenomic analysis of soil microbial community composition at multiple spatial scales: Project design, hypotheses and predictions. 2nd Annual Argonne Soils Workshop. Chicago, IL

Urban MA, **Nelson DM**, Pearson A, Hu FS. 2009. When did C_4 photosynthesis originate: New evidence from $\delta^{13}C$ analysis of single grass-pollen grains. American Geophysical Union- San Francisco, CA.

Nelson DM, Henderson A, Hu FS, Huang YS, Shuman BN, Williams J. 2009. Holocene climate seasonality captured by a dual isotope approach at Steel Lake, Minnesota. American Geophysical Union- San Francisco, CA.

Nelson DM, Cann IKO, Mackie RI. 2008. Pyrosequencing reveals the influence of elevated atmospheric CO_2 on the composition of archaeal communities in the rhizosphere of C_3 and C_4 crops. American Geophysical Union- San Francisco, CA.

Nelson DM, Hu FS, Verschuren D, Pearson A. 2008. Estimating C_3- and C_4-grass abundance in the paleorecord: Development and application of SPIRAL (Single Pollen Isotope Ratio AnaLysis). Ecological Society of America- Milwaukee, WI.

Nelson DM, Hu FS, Pearson A. 2007. Carbon isotopic analysis of individual modern and fossil grass-pollen grains using a moving-wire combustion interface. European Geophysical Union- Vienna, Austria.

Nelson DM, Ohene-Adjei S, Hu FS, Cann IKO, Mackie RI. 2007. Bacterial diversity and distribution in the Holocene sediments of a northern temperate lake. European Geophysical Union- Vienna, Austria.

Hu FS, **Nelson DM**, Yoneji S, Clegg BF, Lee BY, Kaufman DS, Ito E, Ruhland K, Smol JP, Brown TA, Curry BB, Shemesh A. 2003. Abrupt climatic events during the last glacial-interglacial transition in Alaska. International Limnogeology Conference- Tuscon, AZ.

Slate JE, Scherer RP, Curry BB, **Nelson DM**, Grimm EC. Diatoms responded to climate change in the American Midwest. 2003. North American Diatom Symposium- Islamorada, FL.

Tian J, **Nelson DM**, Hu FS, Brown TA, Stefanova I, Wright HE Jr. 2002. Mid-Holocene Climatic Variations in the Midcontinent of North America: Multi-Proxy Analyses of Sediments from Two Minnesota Lakes. Geological Society of America- Denver, CO.

Nelson D and Van Dyke G. 2001. A vegetative inventory of a recently established prairie at the Lake Katherine Nature Preserve, Palos Heights, IL. Illinois State Academy of Science- Macomb, IL.

ADVISING, MENTORING, SUPERVISING

Major advisor for graduate students

Sarah Endyke, *UMCES/UMCP*, Ph.D. **2022–present**

Nicole Ibrahim, *UMCES/UMCP*, Ph.D. **2022–present**

Jonathan Johnson, *UMCES/UMCP*, Ph.D. **2020–present**

Grace O'Hara, *UMCES/UMCP*, M.S. **2025**

Juliet Nagel, Ph.D., *UMCES/UMCP*, Ph.D. **2022**

Joel Bostic, Ph.D., *UMCES/UMCP*, Ph.D. **2022**

Caitlin Campbell, *UMCES/FSU*, M.S. **2018**

Vanessa Cunningham, *UMCES/UMCP*, M.S. **2016**

Cortney Pylant, *UMCES/FSU*, M.S. **2014**

Committee member for graduate students

Ellie Olsen, *FSU*, M.S. **2023-present**

Luke DeGroote, *UMCES/UMCP*, Ph.D. **2020-present**

Syeda Sadia Ali, *UMCES/UMCP*, M.S. **2025**

Kohma Arai, *UMCES/UMCP*, Ph.D. **2023**

Caitlin Campbell, University of Florida, Ph.D. **2023**

Jacob Hagedorn, *UMCES/UMCP*, Ph.D. **2022**

Justin Mathias, *WVU*, Ph.D. **2020**

Robert Sabo, *UMCES/UMCP*, Ph.D. **2018**

Robert Sabo, *UMCES/UMCP*, M.S. **2014**

Postdocs advised

Hannah Vander Zanden, *USGS* **2016–2017**

William Landesman, *UMCES* **2009–2011**

Undergraduate interns

Jason Haley, *FSU* **2025**

Ty Kashporenko, *FSU* **2025**

Juliana Schmitt, *FSU* **2024**

Quinton Browne, *FSU* **2024**

Mick Lynch, *FSU* **2023**

Max Summerfield, *FSU* **2023**

Logan Tokle, *FSU* **2023**

Chris Bailey, *NAU* **2022**

Abigail Hunker, *FSU* **2022**

Jasmine Smiley, *FSU* **2022**

Richard Johnson, *Garrett College* **2021**

Catherine Hughes, *FSU* **2014**

Jason Kaczor, *FSU* **2010–2011**

George Case, *WVU* **2010**

High school interns

Ela Riley, *Bishop Walsh School* **2025–present**

Lydia Nelson, *Northern Middle School* **2019–2020**

Abigail Reid, *Pawling High School (New York)* **2017–2018**

High school and middle school teachers

Jennifer Knotts, *Washington Middle School* **2013**

John Howard, *Fort Hill High School* **2013**

Betsy Evans, Mountain Ridge High School **2010**

Faculty research assistants supervised

Robin Paulman, *UMCES* **2010–present**

Michael Urban, *UMCES* **2018–2019**

SERVICE

To University

Member, *Strategic plan steering committee*, UMCES **2025**

Chair, *Search committee for CBL Director*, UMCES **2024**

Member, *Executive Committee*, UMCES **2021–present**

Chair, *Search committee for HPL Director*, UMCES **2022**

Member, 5-*year review committee for AL director*, UMCES **2021**

Member, *Committee to develop planning options for phased reactivation of research activities following coronavirus outbreak*, UMCES **2020**

Chair, *MSCHE Re-Accreditation Self-Study Working Group on Educational Effectiveness Assessment*, UMCES **2019–2021**

Member, *Steering committee for MSCHE re-accreditation*, UMCES **2019–2021**

Member, *Learning outcomes assessment committee*, UMCES **2019–present**

Member, *Search committee for proposal submission specialist*, UMCES AL **2019**

Coordinator, *Spring seminar series*, UMCES AL **2010, 2019**

Member, *Review committee for Ecology Foundation applications*, MEES **2018–2020**

Member, *Presidential Fellowship evaluation committee*, UMCES **2018**

Member, *Graduate education committee*, UMCES AL **2018–present**

Member, *Program, Curricula and Courses Committee*, UMCES **2017–2020**

Member, *Graduate Faculty Council*, UMCES **2017–2020**

Member, *Program Committee*, MEES **2017–2020**

Ecology representative, *Program Committee*, MEES **2017–2020**

Vice chair, *Faculty senate*, UMCES **2016–2017**

Member, *5-year review committee for CBL director*, UMCES **2016**

Member, *Faculty development working group*, UMCES **2015–2016**

Secretary, *Faculty senate*, UMCES **2015–2016**

Member, *Faculty senate*, UMCES **2015–2017**

Member, *Faculty search committee for evolutionary ecologist*, UMCES AL **2015**

Member, *Self-study workgroup on faculty excellence for MSCHE accreditation*, UMCES **2014–2015**

Member, *Equipment/infrastructure committee*, UMCES AL **2011–present**

Member, *Search committee for microbial ecologist*, UMCES HPL **2013**

Member, *Open house committee*, UMCES AL **2012, 2015**

Member, *Faculty retreat committee*, UMCES AL **2012**

Reviewer, *Environmental Chemistry AOS applications*, MEES **2010–2011**

Member, *Faculty search committee for forest ecologist*, UMCES AL **2010**

Member, *Safety committee*, UMCES AL **2010–2011**

Coordinator and presenter, *Science Forum on Environmental Genomics*, UMCES **2009**

Co-chair, *IGB Fellows Symposium*, University of Illinois **2008**

Audio/visual technician, *Ecology seminar series*, University of Illinois **2004**

To Profession

Presentation on wind & wildlife interactions, First Lego League robotics team at Bishop Walsh School **2023**

Reviewer, *External promotion and tenure applications* **2021**

Judge, *Science Fair*, International Christian Academy of Nagoya (Japan) High School **2017**

STEMnet presentations, *Mountain Ridge High School* **2014**

Judge, *Science Fair,* Eastern Panhandle (WV) Regional High School **2011-2014, 2016, 2018, 2020**

Committee Member, *Cooper Award*, Ecological Society of America **2012–2014**

Judge, *Science Fair,* Mineral County (WV) Middle School **2012**

Chair, *Paleoecology section*, Ecological Society of America **2010–2011**

Member of organizing committee, *27th Midcontinent Paleobotanical Colloquium*, Frostburg, MD **2010**

Co-organizer and moderator, *Symposium entitled "Paleoecosystem Ecology: Reconstructing Material and Energy Flows of the Past*," Ecological Society of America **2009**

Vice-chair and chair-elect, *Paleoecology section*, Ecological Society of America **2008–2010**

Judge, *Deevey Award*, Ecological Society of America **2008, 2010, 2013**

Presider, *Paleoecology oral presentations session*, Ecological Society of America **2008**

Judge, Best Undergraduate Presentation Award, Ecological Society of America **2008**

Peer reviewer (journals)

Applied and Environmental Microbiology
Applied Sciences
Atmospheric Environment
Biogeochemistry
Biogeosciences
Biological Invasions
Biology
Biology Letters
Diversity
Ecology
Ecology and Evolution
Ecosphere
Ecosystems
Environmental Health Insights
Environmental Pollution
Environmental and Experimental Botany
Foods
Frontiers in Ecology and Evolution
Frontiers of Biogeography
Geobiology
Geochemistry, Geophysics, Geosystems
Geochimica et Cosmochimica Acta
Geology
Geophysical Research Letters
Global Change Biology
Gondwana Research
Hydrobiologia
International Journal of Biological Sciences
International Journal of Systematic and Evolutionary Microbiology
Isotopes in Environmental & Health Studies
Journal for Nature Conservation
Journal of Biogeography
Journal of Environmental Management
Journal of Geophysical Research – Atmospheres
Journal of Field Ornithology
Journal of Marine Systems
Journal of Paleolimnology
Mammalian Biology
Marine Ecology Progress Series
Microbial Ecology
Microbiology

Movement Ecology
New Phytologist
Oecologia
Organic Geochemistry
Palaeogeography, Palaeoclimatology, Palaeoecology
PLOS ONE
Polar Research
Proceedings of the 17th Central Hardwood Forest Conference
Quaternary International
Quaternary Research
Quaternary Science Reviews
Rapid Communications in Mass Spectrometry
Sustainability
The Holocene
Trees - Structure and Function
Tree Physiology
Vegetation History and Archaeobotany
Water Resources Research

Editorial board (journals)

Frontiers in Ecology and the Environment **2018–present**

PeerJ **2017–present**

Peer reviewer (proposals)

Austrian Science Fund (FWF)
Ecological Society of America Symposia
Maryland Sea Grant
National Geographic Society
NASA Postdoctoral Program
Texas Sea Grant
US National Science Foundation
US Department of Defense's Strategic Environmental Research and Development Program
Wilson Ornithological Society Research Grants

Advisory committees

Science Advisor, *Renewable Energy Wildlife Institute* **2019–present**