

Chad Steven Lane

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EDUCATION

University of Tennessee Geography (Physical) Ph.D., 2007

University of Tennessee Geography (Physical) M.S., 2003

University of Denver Environmental Sciences B.S., 2001

Ph.D. Dissertation: *Late Holocene Environmental History in the Northeastern Caribbean: Multi-Proxy Evidence from Two Small Lakes on the Southern Slope of the Cordillera Central, Dominican Republic*. Dissertation Committee: Sally Horn (co-chair), Claudia Mora (co-chair), Ken Orvis, Henri Grissino-Mayer

RESEARCH INTERESTS

Quaternary Environments, Paleoclimatology, Global Climate Change, Biogeography, Stable Isotope Geochemistry, Paleolimnology, Prehistoric Human-Environment Interactions

PROFESSIONAL EXPERIENCE

8/2019–Present Professor, Department of Earth and Ocean Sciences, University of North Carolina Wilmington

7/2021–6/2026 Department Chairperson, Department of Earth and Ocean Sciences, University of North Carolina Wilmington

7/2016–7/2019 Associate Professor, Department of Earth and Ocean Sciences, University of North Carolina Wilmington

1/2011–7/2016 Assistant Professor, Department of Geography and Geology, University of North Carolina Wilmington

7/2009–1/2011 Postdoctoral Fellow, Department of Earth Sciences, Memorial University

1/2008–Present Adjunct Professor, Department of Geography, University of Tennessee

9/2007–7/2009 Mead Witter Foundation Postdoctoral Fellow, Department of Geology, Lawrence University

HONORS AND AWARDS

- Dr. James F. Merritt Million Dollar Club (Extramural Grant Award), UNC-Wilmington, 2023
- Discere Aude Award (Outstanding Student Mentor), UNC-Wilmington, 2015
- Mead-Witter Postdoctoral Fellowship, Lawrence University, 2008
- University Citation for Exceptional Professional Promise, University of Tennessee, 2007
- University Citation for Outstanding Graduate Student Teaching, University of Tennessee, 2006
- Robert G. Long Outstanding Graduate Student Award, University of Tennessee, 2006
- Outstanding Teaching Associate, University of Tennessee, 2005
- Exceptional Professional Accomplishment Award, University of Tennessee, 2004
- Best Paper Presentation by a Masters Student, Biogeography Specialty Group, Annual Meeting of the Association of American Geographers, New Orleans, LA, 2002
- Magna cum Laude, University of Denver, 2001

*Indicates Graduate Student Author; **Indicates Undergraduate Student Author; °Indicates advisee

- (62) Johanson, E.N., S.P. Horn, and **C.S. Lane**. In Review. Trade wind inversion dynamics and late-Holocene drought in the highlands of Hispaniola. Submitted to *Quaternary Science Reviews*.
- (61) Wojtal, P.K., R.N. Mead, and **C.S. Lane**. In Review. Data correction workflow for isotope analysis of perfluorooctanoic acid (PFOA) by orbitrap-IRMS. Submitted to *Journal of the American Society for Mass Spectrometry*.
- (60) Wojtal, P.K., **C.S. Lane**, and R.N. Mead. 2026. Purification and preconcentration of per- and polyfluoroalkyl substances (PFAS) by HPLC fraction collection for isotope analysis. Accepted for publication in *Analytical Chemistry*.
- (59) Moore, C.R., J.A.M. Gingerich, W.A. Childress, M.A. LeCompte, A. West, M. Baalousha, M. Bizimis, T.A. Ferguson, S. Mitra, **C.S. Lane**, T.R. Them II, M.S. Harris, V. Adediji, K.A. Langworthy, M. Alam, P.A. Schroeder, A. Thompson, and J. Jeffreys. 2026. A 12.8 ka microspherule and nanoparticle chronostratigraphic datum in stratified paleoamerican deposits at Smith Mountain Lake (44PY152), USA. Submitted to *Science Open Research*.
- (58) Moore, C.R., A. West, J.P. Kennett, M. Baalousha, W.S. Wolbach, M. Alam, M.A. LeCompte, **C.S. Lane**, T.R. Them II, T.A. Ferguson, V. Adediji, M.D. Young, J.J. Razink, B. van Devener, J.P. Perez, R. Polson, and T. Witwer. 2026. Impact-related proxies, environmental change, and faunal extinctions across the Younger Dryas Boundary in Hall's Cave, Texas. *Airbursts and Cratering Impacts* 4, 1–33. DOI: 10.14293/ACI.2026.0006
- (57) Moore, C.R., M.A. LeCompte, A. West, M. Baalousha, M. Bizimis, D.J. Mallinson, M.J. Brooks, A.C. Goodyear, T.A. Ferguson, S. Mitra, **C.S. Lane**, T.R. Them II, S. Pyne-O'Donnell, W.S. Wolbach, V. Adediji, M.S. Harris, M. Alam, G. Kletetschka, M. Defant, M. Martinez-Colon, S.G. Taylor, P.A. Stone, D.H. Abbott, and T. Witwer. 2026. Microspherules, meltglass, and nanoparticles from the Younger Dryas boundary layer at White Pond, USA. *Airbursts and Cratering Impacts* 4, 1–24. DOI: 10.14293/ACI.2026.0003
- (56) Horn, S.P., K.A. Haberyan, E.N. Johanson, M.M. Herrera, ^{*a}A. Tomlinson, **C.S. Lane**, T. Friedel, and M. Steckler. 2026. A 1500-year paleolimnological record from an ancient debris avalanche landscape in west central Costa Rica. *Physical Geography* 47 (3) , 246–277. <https://doi.org/10.1080/02723646.2026.2634482>
- (55) Wojtal, P.K., B. Davidheiser-Kroll, **C.S. Lane**, and R.N. Mead. 2025. Stable carbon isotope analysis of perfluorooctanoic acid (PFOA) by microflow-high pressure liquid chromatography-orbitrap mass spectrometry. *Rapid Communications in Mass Spectrometry* 39:e10139. <https://doi.org/10.1002/rcm.10139>
- (54) Taylor, Z.P., C.N. Anderson, **C.S. Lane**, G.X. Pleasant, and ^{*a}E. Yanuskiewicz. 2025. A 7500-year record of fire and precipitation dynamics from Clear Pond, South Carolina. *Journal of Quaternary Science* 40(5), 764–777. DOI: 10.1002/jqs.3711.
- (53) ^{*a}Dombrowski, A., P.K. Wojtal, H. Pan, **C.S. Lane**, and R.N. Mead. 2025. Stable carbon and sulfur isotopic compositions of per- and polyfluoroalkyl substances. *Environmental Science and Technology Letters* 12, 216–221. <https://doi.org/10.1021/acs.estlett.5c00021>.
- (52) ^{*}Chaffin, A., L. Cahoon, M. Mallin, **C.S. Lane**, and K. Mapes. 2025. Long-term increase in aquatic organic nitrogen loading in North Carolina: Source elucidation using stable isotope analysis. *Journal of Environmental Quality* DOI: 10.1002/jeq2.20669.
- (51) ^{*a}Kho, P.Y.Y., **C.S. Lane**, S.P. Horn, J.C. Rodgers III, and D.W. Gamble. 2024. Multi-proxy stable isotope analyses of late-Holocene precipitation variability and vegetation change at Laguna María Aguilar, Costa Rica. *Quaternary International* 708, 1–16. <https://doi.org/10.1016/j.quaint.2024.07.017>
- (50) ^{*}Kerr, M.T., S.P. Horn, and **C.S. Lane**. 2024. Holocene hydroclimate in highland Costa Rica: new evidence from hydrogen and carbon isotopes in n-alkanes of terrestrial leaf waxes in a 10,000-year sediment profile. *Journal of Quaternary Science* 39 (4), 665–681. DOI: 10.1002/jqs.3616.
- (49) Moore, C.R., M.A. LeCompte, J.P. Kennett, M.J. Brooks, R.B. Firestone, A.H. Ivester, T.A. Ferguson, **C.S. Lane**, K.A. Duernberger, J.K. Feathers, C.B. Mooney, V. Adediji, D. Batchelor, M. Salmon, K. Langworthy, J.J. Raznik, V. Brogden, B. van Devener, J.P. Perez, R. Polson, M. Martinez-Colon, B.N. Rock, M.D. Young, T.E. Bunch, and A. West. 2024. Platinum, shock-fractured quartz, microspherules, and meltglass widely distributed in Eastern USA at the Younger Dryas onset (12.8 ka). *Airbursts and Cratering Impacts* Vol. 2(1). DOI: 10.14293/ACI.2024.0003.
- (48) ^{*}Olinger, L.K., B. McClenaghan, M. Hajibabaei, N. Fahner, L. Berghuis, H. Rajabi, P. Erwin, **C.S. Lane**, and J. R. Pawlik. 2024. Looking for the sponge loop: Analyses of detritus on a Caribbean forereef using stable isotope and eDNA metabarcoding techniques. *PeerJ* 12:e16970 <https://doi.org/10.7717/peerj.16970>

- (47) Horn, S.P., E.N. Johanson, M. M. Herrera, K.A. Haberyan, T. Friedel, and **C.S. Lane**. 2023. Initial limnology of Laguna Pozo Verde, Costa Rica: bathymetry, water, sediments, and diatoms. *Cuadernos de Investigación*. <https://doi.org/10.22458/urj.v15i2.4835>.
- (46) ^aYanuskiewicz, E.A., **C.S. Lane**, S.P. Horn, E.N. Johanson, and D.W. Gamble. 2022. Compound-specific stable carbon and hydrogen isotope analyses of late-Holocene vegetation and precipitation change at Laguna Los Mangos, Costa Rica. *Quaternary International* 607, 22–34.
- (45) **Lane, C.S.**, ^aE.A. Yanuskiewicz, R.N. Mead, and S.P. Horn. 2021. Anomalously low radiocarbon content of modern *n*-alkanes. *Organic Geochemistry* 152, doi.org/10.1016/j.orggeochem.2020.104170.
- (44) Taylor, Z.P., **C.S. Lane**, and S.P. Horn. 2020. A 3,600-year record of drought in southern Pacific Costa Rica. *Quaternary Research* 98, 36–48. <https://doi.org/10.1017/qua.2020.37>.
- (43) Shimizu, M.S., S.L. Summerlin, J.D. Felix, J. Halls, G.B. Avery, R.J. Kieber, **C.S. Lane**, R.N. Mead, and J.D. Willey. 2020. Variable ethanol concentrations and stable carbon isotopes reveal anthropogenic ethanol contributions to rainwater. *Atmospheric Environment* 234 <https://doi.org/10.1016/j.atmosenv.2020.117578>.
- (42) Reber, E.A., E. Boswell, J. Kelly, and **C.S. Lane**. 2020. Molecular evidence of changing foodways across the Mississippian transition at the George Reeves Site (11S650). *Southeastern Archaeology* 39 (2), 71–88.
- (41) ^aJohanson, E.N., S.P. Horn, **C.S. Lane**, M. Sánchez, and J. Cecil. 2020. Fire history across the Little Ice Age in southern Pacific Costa Rica. *Journal of Paleolimnology* 64, 1–23.
- (40) Li, J., S. Jian, **C.S. Lane**, C. Guo, Y.-H. Lu, X. He, G. Wang, M.A. Mayes, K.E. Dzantor, and D. Hui. 2020. Effects of nitrogen fertilization and bioenergy crop type on soil organic carbon and total nitrogen contents in middle Tennessee USA. *PlosOne* <https://doi.org/10.1371/journal.pone.0230688>.
- (39) Li, J., S. Jian, **C.S. Lane**, C. Guo, Y-H Lu, Q. Deng, M.A. Mayes, K.E. Dzantor, and D. Hui. 2020. Nitrogen fertilization restructured spatial patterns of soil organic carbon and total nitrogen in switchgrass and gamagrass croplands in Tennessee USA. *Scientific Reports* (2020) 10:1211 <https://doi.org/10.1030/s41598-020-58217-x>.
- (38) ^aTaylor, A.K., M.M. Benedetti, J.A. Haws, and **C.S. Lane**. 2019. Hydrogen isotopic compositions of sedimentary *n*-alkanes record ecological change at a Portuguese paleowetland. *Quaternary International* 532, 23–33.
- (37) Moore, C.R., M.J. Brooks, A.C. Goodyear, T.A. Ferguson, A.G. Perrotti, S. Mitra, A. Listeck, B. King, D.J. Mallinson, **C.S. Lane**, B. Shapiro, J. Knapp, A. West, D.L. Carlson, W. Wolbach, T.R. Them, S.M. Harris, and S. Pyne-O'Donnell. 2019. Sediment Cores from White Pond, South Carolina, contain a platinum anomaly, pyrogenic carbon peak, and coprophilous spore decline at 12.8 ka. *Scientific Reports* (2019) 9:15121 <https://doi.org/10.1038/s41598-019-51552-8>.
- (36) ^aKerr, M.T., S.P. Horn, and **C.S. Lane**. 2019. Stable isotope analysis of vegetation history and land-use change at Laguna Santa Elena in southern Pacific Costa Rica. *Vegetation History and Archaeobotany* <https://doi.org/10.1007/s00334-019-00755-0>.
- (35) ^aJohanson, E.N., S.P. Horn, and **C.S. Lane**. 2019. Pre-Columbian agriculture, fire, and Spanish contact: A 4200-year record from Laguna Los Mangos, Costa Rica. *The Holocene* 29 (11), 1743–1757.
- (34) ^aGrochocki, K.K., **C.S. Lane**, J. Stager. 2019. An 1800-year multi-proxy paleoenvironmental reconstruction of Piseco Lake, southern Adirondack Mountains, New York, U.S.A. *Journal of Paleolimnology* 62 (3), 301–314.
- (33) Sánchez, M., S.P. Horn, and **C.S. Lane**. 2019. Stable carbon and nitrogen isotope ratios of surface food residues in Precolumbian ceramics from the southern Pacific region of Costa Rica as evidence of prehistoric human diets. *Cuadernos de Investigación* 11, 89–97.
- (32) Felix, J.D., ^aR. Thomas, ^aM. Casas, M. Shimizu, G.B. Avery, R.J. Kieber, R.N. Mead, **C.S. Lane**, J.D. Willey, A. Guy, and M.L.A. de Moura Campos. 2019. Compound-specific carbon isotope composition of ethanol in Brazil and US vehicle emissions and wet deposition. *Environmental Science and Technology* 53, 1698–1705.
- (31) Bergamino, L., L. Rodriguez-Gallego, A.P.-Parada, M.R Chialanza, V. Amaral, L. Perez, F. Scarabino, C. Lescano, C. Garcia-Sposito, S. Costa, **C.S. Lane**, A. Tuduri, N. Venturini, and F. Garcia-Rodriguez. 2018. Autochthonous organic carbon contributions to the sedimentary pool: A multi-analytical approach in Laguna Garzón. *Organic Geochemistry* 125, 55–56.
- (30) Li, J., S. Jian, J.P. de Koff, **C.S. Lane**, G. Wang, M.A. Mayes, and D. Hui. 2018. Differential effects of warming and N fertilization on soil respiration and microbial dynamics in switchgrass croplands. *Global Change Biology-Bioenergy*, doi: 10.1111/gcbb.12515.
- (29) ^aTaylor, A.K., M.M. Benedetti, J. Haws, and **C.S. Lane**. 2018. Mid-Holocene Iberian hydroclimate variability and paleoenvironmental change: Molecular and isotopic insights from Praia Rei Cortiço, Portugal. *Journal of Quaternary Science* 33, 79–92

- (28) **Lane, C.S.**, ^{***}A.K. Taylor, ^{*a}J. Spencer, and ^{*a}K. Jones. 2018. Compound-specific isotope records of late-Quaternary environmental change in southeastern North Carolina. *Quaternary Science Reviews* 182, 48–64.
- (27) ^{*a}Spencer, J., ^{*a}K. Barket, D.W. Gamble, M.M. Benedetti, ^{***}A.K. Taylor, and **C.S. Lane**. 2017. Late-Quaternary records of fire and vegetation in southeastern North Carolina from Jones Lake and Singletary Lake. *Quaternary Science Reviews* 174, 33–53.
- (26) ^{*}LeBlanc, A., L.M. Kennedy, K-b Liu, and **C.S. Lane**. 2017. Linking hurricane landfalls, precipitation variability, fires, and vegetation response over the past millennium from analysis of coastal lagoon sediments, southwestern Dominican Republic. *Journal of Paleolimnology* 58(2), 135–150.
- (25) **Lane, C.S.**, ^{***}B. Hildebrandt, L.M. Kennedy, A. LeBlanc, K-B. Liu, A.J. Wagner, and A.D. Hawkes. 2017. Verification of tropical storm deposits with oxygen isotope analyses of coeval ostracod valves. *Journal of Paleolimnology* 57(3), 245–255.
- Highlighted article in the 30th anniversary celebration of the journal
- (24) **Lane, C.S.** 2017. Modern *n*-alkane abundances and isotopic values in vegetation of a gymnosperm-dominated ecosystem of the southeastern U.S. coastal plain. *Organic Geochemistry* 105, 33–36.
- (23) Stager, J.C., B.F. Cumming, K. Laird, A. Garrigan-Piela, N. Pederson, B. Wiltse, **C.S. Lane**, ^{*a}J. Nester, and A. Rusmaikin. 2017. A 1600-year diatom record of hydroclimate variability from Wolf Lake, New York. *The Holocene* 27(2), 246–257.
- (22) **Lane, C.S.**, S.P. Horn, Z.P. Taylor, and ^{***}M. Kerr. 2016. Correlation of bulk sedimentary and compound-specific $\delta^{13}\text{C}$ values indicates minimal pre-aging of *n*-alkanes in a small tropical watershed. *Quaternary Science Reviews* 145, 238–242.
- (21) ^{*a}Reidhaar, P., **C.S. Lane**, C.R. Benitez-Nelson, and D.W. Gamble. 2016. Spatial and temporal variations in *Pyrodinium bahamense* cyst concentrations in the sediments of bioluminescent Mangrove Lagoon, St. Croix, U.S.V.I. *Estuaries and Coasts* 39(3), 682–694.
- (20) Tanner, B.R., **C.S. Lane**, ^{**}L. Martin, R.S. Young, and B.S. Collins. 2015. Sedimentary proxy evidence of a mid-Holocene hypsithermal event in the location of a current warming hole, North Carolina, USA. *Quaternary Research* 83, 315–323.
- (19) **Lane, C.S.**, S.P. Horn, and ^{***}M. Kerr. 2014. Beyond the Mayan Lowlands: Impacts of the Terminal Classic Drought in the Caribbean Antilles. *Quaternary Science Reviews* 86, 89–98.
- (18) **Lane C.S.**, and S.P. Horn. 2013. Terrestrially derived *n*-Alkane δD evidence of shifting paleohydrology in highland Costa Rica. *Journal of Arctic, Antarctic, and Alpine Research* 45, 342–349.
- (17) Li, J., S.E. Ziegler, **C.S. Lane**, and S. A. Billings. 2013. Legacies of native climate regime govern responses of boreal soil microbes to litter stoichiometry and temperature. *Soil Biology and Biochemistry* 66, 204–213.
- (16) Ziegler, S.E., S.A Billings, **C.S. Lane**, J. Li, and M.L. Fogel. 2013. Warming alters the routing of labile and slower-turnover carbon through distinct microbial groups in boreal forest organic soils. *Soil Biology and Biochemistry* 60, 23–32.
- (15) **Lane, C.S.**, D. Lyon, and S. Ziegler. 2013. Cycling of two carbon substrates of contrasting lability by heterotrophic biofilms across a nutrient gradient of headwater streams. *Aquatic Sciences* 75, 235–250.
- (14) **Lane, C.S.**, J. J. Clark, A. Knudsen, and ^{***}J. McFarlin. 2013. Paleoenvironmental history of bioluminescent Laguna Grande, Puerto Rico. *Palaeogeography, Palaeoclimatology, and Palaeoecology* 369, 99–113.
- (13) Power, M.J., F.E. Mayle, P.J. Bartlein, J.R. Marlon, R.S. Anderson, H. Behling, K.J. Brown, C. Carcaillet, D. Colombaroli, D.G. Gavin, D.J. Hallett, S.P. Horn, L.M. Kennedy, **C.S. Lane**, C. Long, P.I. Moreno, C. Paitre, G. Robinson, Z. Taylor, and M. Walsh. 2013. Climatic control of the biomass-burning decline in the Americas after AD 1500. *The Holocene* 23, 3–13.
- (12) Li, J., S.E. Ziegler, **C.S. Lane**, and S. Billings. 2012. Warming-enhanced preferential microbial mineralization of humified boreal forest soil organic matter: Interpretation of soil profiles along a climate transect using laboratory incubations. *Journal of Geophysical Research-Biogeosciences* 117, G02008, doi: 10.1029/2011JG001769.
- (11) **Lane, C.S.**, S.P. Horn, K.H. Orvis, and ^{**}J. Thomason. 2011. Oxygen isotope evidence of Little Ice Age aridity on the Caribbean slope of the Cordillera Central, Dominican Republic. *Quaternary Research* 75, 461–470.
- (10) **Lane, C.S.**, S.P. Horn, C.I. Mora, K.H. Orvis, and D.B. Finkelstein. 2011. Sedimentary compound-specific stable carbon isotope evidence of late Quaternary environmental change in the Chirripó Páramo of Costa Rica. *Journal of Paleolimnology* 45, 323–338.
- (9) **Lane, C.S.**, ^{***}K.E. Cummings, and J.J. Clark. 2010. Maize pollen deposition patterns in modern lake sediments: A case study from northeastern Wisconsin. *Review of Palaeobotany and Palynology* 159, 177–187.

- (8) Tanner, B.R., M.E. Uhle, C.I. Mora, J.T. Kelley, P.J. Schuneman, **C.S. Lane**, E.S. Allen. 2010. Comparison of bulk and compound-specific $\delta^{13}\text{C}$ analyses and determination of carbon sources to salt marsh sediments using *n*-alkane distributions (Maine, USA). *Estuarine, Coastal, and Shelf Science* 86, 283–291.
- (7) **Lane, C.S.**, S.P. Horn, C.I. Mora, and K.H. Orvis. 2009. Late-Holocene paleoenvironmental change in the mid-elevations of the Dominican Republic: A multi-site, multi-proxy analysis. *Quaternary Science Reviews* 28, 2239–2260.
- (6) **Lane, C.S.**, S.P. Horn, Z.P. Taylor, and C.I. Mora. 2009. Assessing the scale of prehistoric human impact in the Neotropics using stable carbon isotope analyses of lake sediments. *Latin American Antiquity* 20, 120–133.
- (5) **Lane, C.S.**, C.I. Mora, S.P. Horn, and K.H. Orvis. 2008. Sensitivity of sedimentary stable carbon isotope signatures to prehistoric forest clearance and agriculture in the Neotropics. *Journal of Archaeological Science* 35, 2119–2132.
- (4) **Lane, C.S.**, S.P. Horn, K.H. Orvis, and C.I. Mora. 2008. The earliest botanical evidence of Ostionoid maize agriculture from the interior of Hispaniola. *Caribbean Journal of Science* 44, 43–52.
- (3) **Lane, C.S.** 2007. A reanalysis of the applicability of Rapoport's Rule in the United States and its criticisms. *The Professional Geographer* 59, 115–130.
- (2) Orvis, K.H., **C.S. Lane**, and S.P. Horn. 2005. Laboratory production of vouchered reference charcoal from small wood samples and non-woody plant tissues. *Palynology* 29, 1–11.
- (1) **Lane, C.S.**, S.P. Horn, and C.I. Mora. 2004. Stable carbon isotope ratios in lake and swamp sediments as a proxy for prehistoric forest clearance and crop cultivation in the Neotropics. *Journal of Paleolimnology* 32, 375–381.

REPORTS AND OTHER PUBLICATIONS

Wojtal, P.K., B. Davidheiser-Kroll, M. Tuthorn, **C.S. Lane**, and R.N. Mead. 2026. Differentiating PFAS sources using Orbitrap-IRMS. Thermo Fisher Scientific Technical Note 004379.

Lane, C.S., K. Reale-Munroe, B. Castillo, A.J. Wagner, and J.L. Pinckney. 2017. Water Chemistry, Phytoplankton, and Sediment Dynamics of Nearshore Habitats in Salt River Bay, St. Croix, USVI. Department of the Interior.

Kerr, M.T., S.P. Horn, **C.S. Lane**, and E.N. Johanson. 2015. Report on Stable Carbon and Nitrogen Isotope Analysis of Five Pottery Surface Residue Samples from Site C362MNG, Costa Rica. Universidad de Costa Rica, Facultad de Ciencias Sociales, Escuela de Antropología, Laboratorio de Arqueología.

Kerr, M.T., S.P. Horn, **C.S. Lane**, and E.N. Johanson. 2015. Report on Stable Carbon and Nitrogen Isotope Analysis of Six Pottery Surface Residue Samples and One Soil Sample from Site L72NC, Costa Rica. Universidad de Costa Rica, Facultad de Ciencias Sociales, Escuela de Antropología, Laboratorio de Arqueología.

Kerr, M.T., S.P. Horn, **C.S. Lane**, and E.N. Johanson. 2015. Report on Stable Carbon and Nitrogen Isotope Analysis of Three Pottery Surface Residue Samples from Site C304AC, Costa Rica. Universidad de Costa Rica, Facultad de Ciencias Sociales, Escuela de Antropología, Laboratorio de Arqueología.

Pinckney, J.L., D.I. Greenfield, C. Benitez-Nelson, R. Long, **C.S. Lane**, C. Tomas, P. Reidhaar, B. Castillo, Bioluminescence in Mangrove Lagoon, Salt River Bay, St. Croix, USVI. National Park Service, Salt River Bay NHP & EP.

Kerr, M.T., M.S. Boehm, **C.S. Lane**, and S.P. Horn. 2014. Report on Loss-on-Ignition, Pollen, and Stable Carbon and Nitrogen Isotope Analyses in Soil Samples from the Guayabo de Turrialba Site, Costa Rica. Pp. 168–172 in Alarcón Z., G.M. *Informe Proyecto Arqueológico: Estudio de los Límites Espaciales y Temporales del Sitio Arqueológico Guayabo de Turrialba (C-362 MNG). Segunda Fase. Informe Temporada 2013.* Universidad de Costa Rica, Facultad de Ciencias Sociales, Escuela de Antropología, Laboratorio de Arqueología.

PRESENTATIONS AT PROFESSIONAL MEETINGS

**Indicates Graduate Student Author; **Indicates Undergraduate Student Author*

- (158) Moore, C.R., J.A.M. Gingerich, W.A. Childress, M.A. LeCompte, A. West, M. Baalousha, M. Bizimis, T.A. Ferguson, S. Mitra, **C.S. Lane**, T.R. Them II, M.S. Harris, V. Adededeji, K.A. Langworthy, M. Alam, P.A. Schroeder, A. Thompson, J. Jeffreys, and M.J. Defant, 2026. A high-resolution Younger Dryas Boundary datum in stratified Paleoamerican deposits at Smith Mountain Lake (44PY152), Virginia. Presented at the 2026 Paleoamerican Odyssey Conference, Santa Fe, NM.
- (157) Wojtal, P.K., **C.S. Lane**, and R.N. Mead, 2026. Stable isotopic analysis of per- and polyfluoroalkyl substances (PFAS) to elucidate sources and transformations in the environment. Presented at the 2026 American Geophysical Union Annual Meeting, San Francisco, CA.

- (156) Basu, R., B. Gran, **C.S. Lane**, S. Perazzolo, and A. Basu, 2026. Do complex carbs work the same for everyone? Comparing glucose metabolism across weight and diabetes status. Presented at the European Association for the Study of Diabetes Annual Meeting, Milan, Italy.
- (155) Tollstrup, D., P.K. Wojtal, B. Davidheiser-Kroll, **C.S. Lane**, and R.N. Mead, 2026. Analytical enhancements in stable isotope ratio measurements of PFAS using Orbitrap-IRMS. Presented at the 2026 Annual Conference of the American Society for Mass Spectrometry, San Diego, CA.
- (154) Pellegrini, M., P.K. Wojtal, B. Davidheiser-Kroll, **C.S. Lane**, and R.N. Mead, 2026. Analytical improvements using Orbitrap-IRMS to measure solutions of per- and polyfluoroalkyl substances (PFAS) for stable isotopic ratios. Presented at the 2026 General Assembly of the European Geosciences Union, Vienna, Austria.
- (153) Horn, S.P., K.A. Haberyan, E.N. Johanson, M.M. Herrera, *A. Tomlinson, **C.S. Lane**, T. Friedel, and M.R. Steckler, 2025. A late Holocene paleolimnological record from a landslide-prone landscape in the Tilaran Mountains of Costa Rica. Presented at the 2025 Southeast Division of the American Association of Geographers Meeting, Lexington, KY.
- (152) Wojtal, P.K., B. Davidheiser-Kroll, **C.S. Lane**, and R.N. Mead, 2025. Analytical improvements using orbitrap-IRMS to measure solutions of per- and polyfluoroalkyl substances (PFAS) for stable isotopic ratios. Presented at the 2025 American Geophysical Union Annual Meeting, New Orleans, LA.
- (151) Wojtal, P.K., D.J. Portelli, B. Davidheiser-Kroll, **C.S. Lane**, and R.N. Mead, 2025. Stable isotopic analysis of per- and polyfluoroalkyl substances (PFAS) to elucidate sources and transformations in the environment. Presented at the 2025 American Geophysical Union Annual Meeting, New Orleans, LA.
- (150) Sweely, B.M., V. Hemingway, G. Howe, **C.S. Lane**, and A.M. Durso, 2025. Validation of non-lethal and preserved samples for stable isotope analysis of anurans and fishes. Presented at the Joint Meeting of Ichthyologists and Herpetologists (JMIH), Saint Paul, MN.
- (149) Wojtal, P.K., B. Davidheiser-Kroll, **C.S. Lane**, R.N. Mead, 2025. Stable isotopic analysis of per- and polyfluoroalkyl substances (PFAS) by nanoflow-HPLC-orbitrap-MS. Presented at the Goldschmidt Conference, Prague, Czechoslovakia.
- (148) Wojtal, P.K., B. Davidheiser-Kroll, **C.S. Lane**, and R.N. Mead, 2025. Stable isotopic analysis of per- and polyfluoroalkyl substances (PFAS) by nanoflow-HPLC-orbitrap-MS. Presented at the Annual Meeting of the American Chemical Society (ACS), San Diego, CA.
- (147) Perazzolo, S., U.S. Unni, **C.S. Lane**, B. Gran, A. Basu, and R. Basu, 2025. Mixed meals containing complex carbohydrates improves insulin sensitivity and disposition index in type 2 diabetes: Mechanistic insights using minimal model analyses. Presented at the 85th Scientific Sessions of the American Diabetes Association, Chicago, IL.
- (146) Hanebuth, T.J.J., C.M. Boyce, N. Turner, *M. Gorlo, **C.S. Lane**, and F.J. Lobo, 2025. History of flood events and impact of land-use practices over the past 8,000 and 600 years recorded in shelf deposits in the Gulf of Cadiz (SW Spain). Presented at the International Association of Sedimentologists Meeting, Huelva, Spain.
- (145) McVey, M., S.P. Horn, L. Blentlinger, B. Watson, M. Kerr, and **C.S. Lane**, 2025. A new leaf-wax hydrogen isotope record from the Valle de las Morrenas, Costa Rica. Presented at The Annual Meeting of the American Association of Geographers, Detroit, MI.
- (144) Wojtal, P.K., B. Davidheiser, **C.S. Lane**, and R.N. Mead, 2024. Stable isotopic analysis of per- and polyfluoroalkyl substances (PFAS) by nanoflow-HPLC-Orbitrap-MS. Presented at the 2024 American Geophysical Union Annual Meeting, Washington, DC.
- (143) *Dombrowski, A.D., R.N. Mead, and **C.S. Lane**, 2024. Responding to the per-and polyfluoroalkyl substances (PFAS) contamination crisis: Developing a new chemical fingerprinting tool for PFAS using gas chromatography-isotope ratio mass spectrometry. Presented at the 2024 NC Water Resources Research Institute Annual Conference, Raleigh, NC.
- (142) *Alumbaugh, J.L., S.P. Horn, and **C.S. Lane**, 2024. A 13,000-year record of macroscopic charcoal and bulk stable isotopes from an Ecuadorian paramo. Presented at The Annual Meeting of the American Association of Geographers, Honolulu, HI.
- (141) **Hutchinson, H.E., S.P. Horn, T.A. Minckley, and **C.S. Lane**, 2023. Geochemical and stable isotope analysis of a sediment core from Cuatrocienegas, Mexico. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), Knoxville, TN.
- (140) *Alumbaugh, J.L., S.P. Horn, M.T. Kerr, and **C.S. Lane**, 2023. Non-pollen palynomorphs compared to other proxies in the sediments of Lago Morrenas 1, Costa Rica. Presented at the Annual Meeting of the AASP-TPS, Lexington, KY.
- (139) Gamble, D.W., *C. Roan, S.P. Horn, and **C.S. Lane**, 2023. Spatial analysis of high-resolution drought data for Costa Rica 1950–2010. Presented at The Annual Meeting of the American Association of Geographers, Denver, CO.

- (138) *McVey, M., S.P. Horn, and **C.S. Lane**, 2023. Prehistoric agriculture and environmental change from lake sediments: new records from Laguna Bonilla, Costa Rica. Presented at the 2023 GEOSYM conference, Knoxville, TN.
- (137) *Dombrowski, A., R. Mead, and **C.S. Lane**, 2023. A new forensic tool establishing source and fate of per- and polyfluoroalkyl substances (PFAS): Compound-specific isotopic analysis using gas chromatograph-isotope ratio mass spectrometry. Presented at the 2023 NC Water Resources Research Institute Annual Conference, Raleigh, NC.
- (136) Benedetti, M., J. Haws, T. Minckley, S.L. Forman, **A.K. Taylor, and **C.S. Lane**, 2023. A glacial cycle of geomorphic and paleoenvironmental change at Praia Re Cortico, Portugal. Presented at the Annual Meeting of the International Union for Quaternary Research, Rome, Italy.
- (135) Blentlinger, L.R.* , S.P. Horn, **C.S. Lane**, J.A. Cecil, C. Smith, and M.S. Boehm, 2022. A 4800-year record of vegetation and hydrology from a Belizean savanna. Presented at the Annual Meeting of the Southeastern Division of the American Association of Geographers, Atlanta, GA.
- (134) McVey, M.** , S.P. Horn, and **C.S. Lane**, 2022. Stable carbon isotope evidence of prehistoric vegetation change from Laguna Bonillita, Costa Rica. Presented at the Annual Meeting of the Southeastern Division of the American Association of Geographers, Atlanta, GA.
- (133) LaFollette, A.G.* , S.P. Horn, **C.S. Lane**, and R.W. Brown, 2022. Stable carbon isotope signatures as indicators of changes in vegetation and historical land use around Rutland Lake, New York. Presented at the Annual Meeting of the Southeastern Division of the American Association of Geographers, Atlanta, GA.
- (132) Kho, P.Y.Y* , **C.S. Lane**, S.P. Horn, and J.C. Rodgers III, 2022. Multi-proxy stable isotope analyses of late-Holocene precipitation variability and vegetation change at Laguna María Aguilar, Costa Rica. Presented at the annual meeting of the American Geophysical Union, Chicago, IL.
- (131) Tomlinson, A.R.* , **C.S. Lane**, S.P. Horn, E.N. Johanson, M.M. Herrera, and M.S. Steckler** , 2022. Analysis of compound-specific hydrogen isotopes from lacustrine sediments to establish Holocene precipitation dynamics at Laguna Arancibia, Costa Rica. Presented at the annual meeting of the American Association of Geographers, New York, NY.
- (130) Kho, P.Y.Y* , **C.S. Lane**, S.P. Horn, and J.C. Rodgers III, 2022. Geochemical and microfossil records from a late-Holocene sediment core from Laguna Maria Aguilar, Costa Rica. Presented at the annual meeting of the American Association of Geographers, New York, NY.
- (129) Blentlinger, L.* , S.P. Horn, **C.S. Lane**, J. A. Cecil, C. Smith, and M.S. Boehm, 2022. Compound-specific stable carbon and hydrogen isotope analyses of vegetation and precipitation change in a Belizean pine savanna. Presented at the annual meeting of the American Association of Geographers, New York, NY.
- (128) Horn, S.P., M.T. Kerr, **C.S. Lane**, K.A. Haberyan, M.R. Arford, 2022. An 8000-year precipitation record from the Central American dry corridor. Presented at the annual meeting of the American Association of Geographers, New York, NY.
- (127) Blanco, C.* , A.D. Hawkes, J.P. Donnelly, and **C.S. Lane**, 2021. 300-year hurricane frequency reconstructions using grain size and $\delta^{18}\text{O}$ analysis of *Elphidium excavatum* coeval with tempestites in the Pelican Cays, Belize. Presented at the 2021 Annual Meeting of the American Geophysical Union, New Orleans, LA.
- (126) Horn, S.P., M.T. Kerr, J.J. Rodgers III, M.S. Boehm, G. Alarcón-Zamora, and **C.S. Lane**, 2021. Pollen and stable carbon isotope analysis at Guayabo de Turrialba and Laguna Azul, Costa Rica. Presented at the 53rd Annual Meeting of the AASP-The Palynological Society, Virtual Meeting in 2021 due to Covid-19 Pandemic.
- (125) Blentlinger, L.B.* , L.G. Artavia-Rodriguez, S.P. Horn, and **C.S. Lane**, 2021. Organic microfossils and stable carbon isotope signatures in a savannah wetland. Presented at the 53rd Annual Meeting of the AASP-The Palynological Society, Virtual Meeting in 2021 due to Covid-19 Pandemic.
- (124) Romeres, D., Y. Yadav, A. Asfa, A. Basu, C. Cobelli, **C.S. Lane**, C.D. Man, and R. Basu, 2021. Mechanisms of improvement in glucose tolerance after complex carbohydrate meal in type 2 diabetes. 57th Annual Meeting of the European Association for the Study of Diabetes, Virtual Meeting in 2021 due to Covid-19 Pandemic.
- (123) Yadav, Y., A. Asfa, F.N.U. Ruchi, A. Weaver, C. Amarasekarage, **C.S. Lane**, A. Basu, and R. Basu, 2021. Estimation of glucose turnover using naturally enriched complex carbohydrate meal in type 2 diabetes; comparison with triple tracer meal. 81st Scientific Sessions of the American Diabetes Association, Virtual Meeting in 2021 due to Covid-19 Pandemic.
- (122) Taylor, Z.P., E.A. Yanuskiewicz* , C.N. Anderson, and **C.S. Lane**, 2021. 7,500 years of environmental change at Clear Pond, South Carolina. Presented at the annual meeting of the American Association of Geographers, Virtual Conference in 2021 due to Covid-19 Pandemic.

- (121) **Lane, C.S.**, E.A. Yanuskiewicz*, S.P. Horn, M.T. Kerr*, and A.K. Taylor, 2021. Interpretation of age offsets between alkanes and stratigraphically coeval sediments and macrofossils in lacustrine cores. Presented at the annual meeting of the American Association of Geographers, Virtual Conference in 2021 due to Covid-19 Pandemic.
- (120) LaFollette, A.G.***, S.P. Horn, and **C.S. Lane**, 2020. Developing a pollen and charcoal record from Laguna de Felipe in the Dominican Republic. Discovery Day, University of Tennessee, Knoxville, TN.
- (119) LaFollette, A.G.***, L.R. Blentlinger*, J.J. Clance, S.P. Horn, **C.S. Lane**, L.G. Artavia, and M.T. Kerr, 2020. How sample pretreatments affect stable isotope values in lake sediments. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), Knoxville, TN.
- (118) Steckler, M.***, S.P. Horn, **C.S. Lane**, M.S. Boehm*, M. M. Herrera, E. N. Johanson, and T. Friedel, 2020. Stable carbon and nitrogen isotope ratios in the sediments of Laguna Arancibia, Costa Rica. Exhibition of Undergraduate Research and Creative Achievement (EURēCA), Knoxville, TN.
- (117) Horn, S.P., *M.T. Kerr, **C.S. Lane**, K.A. Haberyan, and M.R. Arford, 2020. An 8000-year precipitation record from the Central American Dry Corridor. Presented at the annual meeting of the American Association of Geographers, Denver, CO. *Note Meeting Cancelled due to Covid-19 virus.*
- (116) *Kerr, M.T, S.P. Horn, and **C.S. Lane**, 2020. Developing bulk $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ records from lake sediments: can we use the same acid-fumigated sample for both analyses? Presented at the annual meeting of the American Association of Geographers, Denver, CO. *Note Meeting Cancelled due to Covid-19 virus.*
- (115) Johanson, E.N., S.P. Horn, Mauricio Murillo H., J.A. Cecil, L.R. Blentlinger, M.S. Boehm, and **C.S. Lane**, 2020. Vegetation and fire dynamics from a wetland sediment core in the Central Valley, Costa Rica. Presented at the annual meeting of the American Association of Geographers, Denver, CO. *Note Meeting Cancelled due to Covid-19 virus.*
- (114) Taylor, Z.P., *E. Yanuskiewicz, **C.N. Anderson, and **C.S. Lane**, 2020. 7000 years of environmental change at Clear Pond, South Carolina. Presented at the annual meeting of the American Association of Geographers, Denver, CO. *Note Meeting Cancelled due to Covid-19 virus.*
- (113) Emslie, S.D., M. Reaves, **C.S. Lane**, and K. Duernberger, 2020. Using multiple stable isotopes to assess late Holocene foraging grounds of Adélie penguins in the southern Ross Sea, Antarctica. Presented at the 12th International Conference on the Applications of Stable Isotope Techniques to Ecological Studies, Gaming, Austria.
- (112) Moore, C.R., M.J. Brooks, A.C. Goodyear, T.A. Ferguson, A.G. Perrotti, S. Mitra, A. Listekci, B. King, D.J. Mallinson, **C.S. Lane**, B. Shapiro, J. Knapp, A. West, D.L. Carlson, W. Wolbach, T.R. Them, S.M. Harris, and S. Pyne-O'Donnell, 2020. Sediment cores from White Pond, South Carolina contain a platinum anomaly, pyrogenic carbon peak, and coprophilous spore decline at 12.8 ka. Presented at the annual meeting of the Southeastern Division of the Geological Society of America, Reston, VA.
- (111) LaMaskin, T.A., A.A. Perry, D. De Vleeschouwer, **C.S. Lane**, D.J. Over, and K.A. Schantz, 2020. A Late Devonian (Frasnian), low-latitude record of orbital forcing: Magnetic susceptibility reflects a global dust teleconnection, Guilmette Formation, Great Basin, U.S.A. Presented at the meeting of the Society for Sedimentary Geology (SEPM) International Sedimentary Geosciences Congress, Flagstaff, AZ.
- (110) Mitra, S., A. Peralta, A. Zimmerman, **C.S. Lane**, A. Wozniak, and P. Hatcher, 2019. Implications of biochar addition on plant-microbial interactions and soil respiration. Presented at the meeting of the Atlantic Estuarine Research Society, Woodbridge, VA.
- (109) *Bartlett, M.K., A.D. Hawkes, N. Cahill, P. Bobrowsky, Y. Sawai, K. Tanigawa, and **C.S. Lane**, 2019. New Bayesian quantitative paleoenvironmental reconstructions of AD 1700 coastal subsidence along the northern margin of the Cascadia subduction zone. Presented at the meeting of the International Union for Quaternary Research, Dublin, Ireland.
- (108) Reale-Munroe, K., J. Pinckney, D. Greenfield, C. Tomas, **C.S. Lane**, B. Castillo, M. Zimmerlin, *P. Reidhaar, and Z. Hillis-Starr, 2019. Highlights-bioluminescent Mangrove Lagoon, St. Croix, U.S.V.I. Presented at the Annual Meeting of the Association for the Sciences of Limnology and Oceanography, San Juan, Puerto Rico.
- (107) Taylor, Z.P., **C.S. Lane**, and S.P. Horn, 2019. A spatially-explicit record of prehistoric maize agriculture from compound-specific carbon isotope analysis. Presented at the Annual Meeting of the American Association of Geographers, Washington, D.C.
- (106) Johanson, E.N., *M.T. Kerr, S.P. Horn, **L.R. Blentlinger, and **C.S. Lane**, 2019. A 4,200-year record of fire history from the southern Pacific Costa Rica lowlands. Presented at the Annual Meeting of the American Association of Geographers, Washington, D.C.

- (105) Horn, S.P., *M.S. Boehm, *M.T. Kerr, E. Reed, W. Wright, **C.S. Lane**, M. Arford, and **J. Graham, 2019. New proxy analyses from Laguna Martinez, Costa Rica. Presented at the Annual Meeting of the American Association of Geographers, Washington, D.C.
- (104) *Cecil, J.A., C.E. Smith, S.P. Horn, *M.S. Boehm, and **C.S. Lane**, 2019. A multiproxy record of paleoenvironmental change from a Belizean pine savanna. Presented at the Annual Meeting of the American Association of Geographers, Washington, D.C.
- (103) *Kerr, M.T., S.P. Horn, and **C.S. Lane**, 2019. A revised chronology of paleohydrology and vegetation change at Laguna Bonillita, Costa Rica. Presented at the Annual Meeting of the American Association of Geographers, Washington, D.C.
- (102) *Yanuskiewicz, E., **C.S. Lane**, E. Johanson, *M.T. Kerr, and S.P. Horn, 2019. Compound-specific stable carbon isotope analysis of vegetation and land-use change at Laguna Los Mangos, Costa Rica. Presented at the Annual Meeting of the American Association of Geographers, Washington, D.C.
- (101) **Blentlinger, L.R., S.P. Horn, *M.T. Kerr, and **C.S. Lane**, 2018. Hydrogen isotope analysis of n-alkanes in sediments of Emerald Pond, Abaco Island, The Bahamas. Presented at the Annual Meeting of the Southeastern Division of the American Association of Geographers, Johnson City, TN.
- (100) *Kerr, M.T., S.P. Horn, and **C.S. Lane**, 2018. Sedimentary nitrogen as a proxy for prehistoric forest clearance and site abandonment in southern Pacific Costa Rica. Presented at the Annual Meeting of the Southeastern Division of the American Association of Geographers, Johnson City, TN.
- (99) *Perry, A.A., T.A. LaMaskin, *K.A. Schantz, *O.A. Koster, *J.T. Nolan, B. Ellwood, **C.S. Lane**, and J.D. Over, 2018. A stratigraphic multi-proxy covariation test for the cause of the Late Devonian *punctata* event carbon isotope excursion, Guilmette Formation, eastern Nevada, U.S.A. Presented at the Annual Meeting of the Geological Society of America, Indianapolis, IN.
- (98) *Koster, O.A., T.A. LaMaskin, **C.S. Lane**, and A.D. Hawkes, 2018. Stable carbon isotope signature of the Late Devonian (Frasnian) Alamo impact: Geologically instantaneous transfer of ¹³C-enriched carbon from the lithosphere to the dissolved inorganic carbon pool. Presented at the Annual Meeting of the Geological Society of America, Indianapolis, IN.
- (97) LaMaskin, T.A., *K. Schantz, *A. Perry, *O.A. Koster, **C.S. Lane**, and J.D. Over, 2018. What is the Punctata event? A new high-resolution $\delta^{13}\text{C}_{\text{carb}}$ and magnetic susceptibility record of late Devonian (Frasnian) paleo-oceanography from the Great Basin, U.S.A. Presented at the Annual Meeting of the Geological Society of America, Indianapolis, IN.
- (96) **Hughes, C.K., A.J. Wagner, **C.S. Lane**, *D. Keene, and D.W. Gamble, 2018. Implications of land use practices on coastal ecosystems as determined via geochemical properties in corals of Salt River Bay, St. Croix, USVI. Presented at the Annual Meeting of the American Geophysical Union, Washington, DC.
- (95) Li, J., S. Jian, J. de Koff, **C.S. Lane**, G. Wang, M.A. Mayes, and D. Hui, 2018. Differential effects of warming and nitrogen fertilization on soil respiration and microbial dynamics in switchgrass croplands. Presented at the Annual Meeting of the American Geophysical Union, Washington, DC.
- (94) **Listecki, A., **B. King, S. Mitra, D. Mallinson, C. Moore, **C.S. Lane**, and K. Duernberger, 2018. Historical profiles of organic and soot carbon in White Pond, South Carolina. Presented at the Southeastern Biogeochemistry Symposium, Tallahassee, FL.
- (93) *MacLennan, E., S.P. Horn, M.T. Kerr, **C.S. Lane**, and K. Ellis, 2018. Compound-specific hydrogen isotope record of precipitation from coastal north Hispaniola. Presented at the Annual Meeting of the American Association of Geographers, New Orleans, LA.
- (92) *Kerr, M.T., S.P. Horn, and C.S. Lane, 2018. A 10,000 year hydrogen isotope record of precipitation variability from highland Costa Rica. Presented at the Annual Meeting of the American Association of Geographers, New Orleans, LA.
- (91) **Anderson, C.N., Z.P. Taylor, and **C.S. Lane**, 2018. A high-resolution Holocene fire history from Clear Pond, South Carolina. Presented at the Annual Meeting of the American Association of Geographers, New Orleans, LA.
- (90) *Johanson, E.N., S.P. Horn, **C.S. Lane**, M. Sánchez, and J.A. Cecil, 2018. Fire history across the Little Ice Age in southern Pacific Costa Rica. Presented at the Annual Meeting of the American Association of Geographers, New Orleans, LA.
- (89) **Blentlinger, L.R., S.P. Horn, E.N. Johanson, *M.T. Kerr, **C.S. Lane**, *M.S. Boehm, and **J.A. Cecil, 2017. Proxy analyses of wetland sediments in Costa Rica. Presented at the Annual Meeting of the Southeastern Division of the American Association of Geographers, Starkville, MS.
- (88) **Lane, C.S.**, **A.K. Taylor, *J. Spencer, and *K. Jones, 2017. Compound-specific hydrogen isotope evidence of late Quaternary paleohydrologic change from the Atlantic Coastal Plain, North Carolina, USA. Presented at the Annual Meeting of the American Geophysical Union, New Orleans, LA.

- (87) *Farrington, E., **C.S. Lane**, A.D. Hawkes, J.P. Donnelly, P.J. van Hengstum, J. Woodruff, C. Maio, *K.K. Grochocki, and **A.K. Taylor, 2017. Sedimentary geochemical evidence of late-Holocene paleoenvironmental change from Baradères Bay, Haiti. Presented at the Annual Meeting of the American Geophysical Union, New Orleans, LA.
- (86) Li, J., S. Jian, C. Guo, D. Hui, Q. Deng, C-L Yu, K.E. Dzantor, and **C.S. Lane**, 2017. Nitrogen fertilization elevated spatial heterogeneity of soil microbial biomass carbon and nitrogen in switchgrass and gamagrass croplands. Presented at the Annual Meeting of the American Geophysical Union, New Orleans, LA.
- (85) Shimizu, M.S., J.D. Felix, M. Casas, G. Avery, R. Kieber, R. Mead, J. Willey, and **C.S. Lane**, 2017. High relative abundance of biofuel-sourced ethanol in precipitation in the US and Brazil determined using compound-specific stable carbon isotopes. Presented at the Annual Meeting of the American Geophysical Union, New Orleans, LA.
- (84) *O'Donnell, R.J., A.D. Hawkes, **C.S. Lane**, S.E. Engelhart, B.P. Horton, P. Bobrowsky, Y. Sawai, and R. C. Witter, 2017. Assessing the utility of $\delta^{13}\text{C}$ and bulk geochemistry in estuaries along the Cascadia subduction zone for coastal paleoseismology. Presented at the Annual Meeting of the Geological Society of America, Seattle, WA.
- (83) **Blentlinger, L.R., S.P. Horn, E.N. Johanson, *M.T. Kerr, **J.A. Cecil, **C.S. Lane**, and *M.S. Boehm, 2017. Reconstructing past environments in Costa Rica through analyses of wetland sediments. Presented at the University of Tennessee Discovery Day, Knoxville, TN.
- (82) Metcalfe, S.E., J.A. Holmes, M. Burn, **C.S. Lane**, and S.P. Horn, 2017. Palaeolimnological records of climate change in the Central American–Intra-American Seas region over the last 2000 years. Presented at the Open Science Meeting of the Past Global Changes Project, Zaragoza, Spain.
- (81) **Taylor, A.K., **C.S. Lane**, and R. Mead, 2017. A Pyrogenic Biomarker Characterization of Prehistoric Conifer Combustion in the Atlantic Coastal Plain. Presented at the UNCW Center for the Support of Undergraduate Research and Fellowships (CSURF) Research and Creativity Showcase, Wilmington, NC.
- (80) Reale-Munroe, K., J. Pinckney, D. Greenfield, C. Tomas, **C.S. Lane**, B. Castillo, M. Latz, M. Zimmerlin, *P. Reidhaar, Z. Hillis-Starr, 2017. Highlights-Bioluminescent Mangrove Lagoon, St. Croix, USVI. Presented at the University of the Virgin Islands Annual Research Symposium, St. Croix, USVI.
- (79) **Keene, D.J., A.J. Wagner, and **C.S. Lane**, 2017. Late Holocene climate variability from St. Croix, USVI reef corals. Presented at the Annual Meeting of the Cordilleran Division of the Geological Society of America, Honolulu, HI.
- (78) **Anderson, C.N., Z.P. Taylor, and **C.S. Lane**, 2017. Holocene vegetation and fire history from Clear Pond, South Carolina. Presented at the Annual Meeting of the Association of American Geographers, Boston, MA.
- (77) Taylor, Z.P., **C.S. Lane**, and S.P. Horn, 2017. Hydrogen isotope evidence of climatic control on prehistoric agricultural activity in southern Costa Rica. Presented at the Annual Meeting of the Association of American Geographers, Boston, MA.
- (76) *Johanson, E.N., S.P. Horn, and **C.S. Lane**, 2017. Pre-Columbian agriculture, fire, and Spanish contact: A 4300-year record from Laguna Los Mangos, Costa Rica. Presented at the Annual Meeting of the Association of American Geographers, Boston, MA.
- (75) Horn, S.P., *M.S. Boehm, *E.N. Johanson, **E. MacLennan, and **C.S. Lane**, 2017. A new sediment record from the Blue Ridge Mountains of North Carolina. Presented at the Annual Meeting of the Association of American Geographers, Boston, MA.
- (74) *Grochocki, K.K., **C.S. Lane**, J.C. Stager, 2017. A 1900-year multi-proxy paleoenvironmental reconstruction of Piseco Lake, Adirondack Mountains, New York. Presented at the Annual Meeting of the Northeast Division of the Geological Society of America, Pittsburgh, PA.
- (73) *O'Donnell, R.J., A.D. Hawkes, S.E. Engelhart, B.P. Horton, **C.S. Lane**, 2017. Geochemical analyses of estuarine sediments along the Cascadian subduction zone and their utility in estimating coseismic subsidence. Presented at the Annual Meeting of the Southeast Division of the Geological Society of America, Richmond, VA.
- (72) *Kerr, M.T., **C.S. Lane**, and S.P. Horn, 2017. Compound-specific stable hydrogen isotope (δD) analysis of lake-sediment cores: A key method for reconstructing prehistoric droughts and effects. Presented at the XI Congreso de Antropología, San Jose, Costa Rica.
- (71) Horn, S.P., **C.S. Lane**, *E.N. Johanson, M. Sanchez, Z.P. Taylor, and *M.T. Kerr, 2017. Stable carbon isotope ratios in Costa Rican lake sediments as a proxy for forest clearance and crop cultivation. Presented at the XI Congreso de Antropología, San Jose, Costa Rica, San Jose, Costa Rica.
- (70) Reale-Munroe, K., J. Pinckney, D. Greenfield, B. Castillo, **C.S. Lane**, M. Zimmerlin, *P. Reidhaar, Z. Hillis-Starr, 2017. Highlights of the bioluminescent Mangrove Lagoon, St Croix, USVI. Presented at the University of the Virgin Islands Research Day.

- (69) **Taylor, A.K., and **C.S. Lane**, 2016. Leaf wax isotopes from the Carolina bays: Evidence of late Quaternary climate change in the southeastern U.S. Presented at the UNCW Center for the Support of Undergraduate Research and Fellowships (CSURF) Research and Creativity Showcase, Wilmington, NC.
- (68) *Casas, M., R.J. Kieber, R.N. Mead, G.B. Avery, J.D. Willey, **C.S. Lane**, and M.S. Shimizu, 2016. Compound-specific – combustion-GC-IRMS determination of Ethanol in precipitation: Impact of biofuel. Presented at the Southeastern Regional Meeting of the American Chemical Society (SERMACS) meeting, Columbia, SC.
- (67) Tanner, B.R., S.P. Horn, **C.S. Lane**, **E. Martin, and R.S. Young, 2016. Radiocarbon ages of southern Appalachian deposits show low accumulation during the middle Holocene. Presented at the Annual Meeting of the Geological Society of America, Denver, CO.
- (66) **Taylor, A.K., M.M. Benedetti, J.A. Haws, and **C.S. Lane**, 2016. Molecular and isotopic proxies of Holocene hydrology and paleoenvironmental change at Praia Rei Cortico, Portugal. Presented at the Annual Meeting of the Association of American Geographers, San Francisco, CA.
- (65) Horn, S.P., M. Sánchez, **C.S. Lane**, Z. Taylor, *M.T. Kerr, *Johanson, E.N., and J. A. Cecil, 2016. Late Holocene fires in Costa Rica: Patterns and drivers. Presented at the Annual Meeting of the Association of American Geographers, San Francisco, CA.
- (64) *Kerr, M.T., S.P. Horn, and **C.S. Lane**, 2016. Precipitation variability over the past 2500 years at Laguna Bonillita, Costa Rica. Presented at the Annual Meeting of the Association of American Geographers, San Francisco, CA.
- (63) *Johanson, E.N., S.P. Horn, and **C.S. Lane**, 2016. A 4000-year record of paleoenvironmental change and agriculture intensification from Laguna Los Mangos in southern Pacific Costa Rica. Presented at the Annual Meeting of the Association of American Geographers, San Francisco, CA.
- (62) Hawkes, A.D., *J. Peth, **C.S. Lane**, J.P. Donnelly, P. Pratolongo, and E. Gomez, 2015. Investigating the utility of foraminiferal isotope proxies for sea-level variability in the Buenos Aires province, Argentina. Presented at the Annual Meeting of the Geological Society of America, Baltimore, MD.
- (61) Moore, C.R., M. LeCompte, A. West, J.K. Feathers, **C.S. Lane**, A.L. Leier, and I. Randolph Daniel, Jr., 2015. Evaluation of magnetic microspherules and elemental data from pre-Younger Dryas to recent age deposits at Squires Ridge (31ED365), Tar River, North Carolina. Presented at the annual Southeastern Archaeological Conference, Nashville, TN.
- (60) Kennedy, L.M., *A. LeBlanc, **C.S. Lane**, and K-b. Liu, 2015. A late-Holocene sedimentary record of hurricane landfalls, climate change, and fire from seasonally-dry tropical forests in southwestern Dominican Republic. Presented at the Meeting of the International Limnogeology Congress, Reno, NV.
- (59) **Blanton, C., T. A. LaMaskin, **C.S. Lane**, C. McRoberts, *C. K. Albritton, and *N. O. Moore, 2015. A new Late Triassic (Norian) marine stable isotope record from western Idaho: A previously unrecognized global OAE? Presented at the Annual Meeting of the Southeast Division of the Geological Society of America, Charlotte, NC.
- (58) *Johanson, E.N., S.P. Horn, and **C.S. Lane**, 2015. Late Holocene paleoenvironments and human-environment interactions from southern Pacific Costa Rica: Two new records. Presented at the Annual Meeting of the Association of American Geographers, Chicago, IL.
- (57) *Kerr, M.T., T. G. Bissett, S.P. Horn, **C.S. Lane**, and D.G. Anderson, 2015. Archaeological freshwater mussel shells as a paleoclimate proxy in middle Tennessee: potentials and limitations. Presented at the Annual Meeting of the Association of American Geographers, Chicago, IL.
- (56) **Lane, C.S.**, S.P. Horn, and **M.T. Kerr, 2014. Compound-specific hydrogen isotope evidence of the Terminal Classic Drought from Hispaniola and potential impacts on Caribbean societies. Presented at the Annual Meeting of the Geological Society of America, Vancouver, BC.
- (55) *Massol, J., A.J. Wagner, D.M. Anderson, **C.S. Lane**, J-K Kim, and S. Hoon Lee, 2014. Decadal variations in Western Pacific Warm Pool dynamics as evidenced by Porites coral from Chuuk Atoll, Federated States of Micronesia. Presented at the Annual Meeting of the American Geophysical Union, San Francisco, CA.
- (54) *Peth, J., A.D. Hawkes, **C.S. Lane**, J.P. Donnelly, P. Pratolongo, and E. Gomez, 2014. Investigating the utility of isotopic proxies for sea-level variability in the South Atlantic Ocean. Presented at the Annual Meeting of the Geological Society of America, Vancouver, BC.
- (53) *Barket, K., *J. Nester, **C.S. Lane**, and D.G. Gamble, 2014. Multi-proxy evidence of late Quaternary paleoenvironmental change in the southeastern United States from two Carolina bays in North Carolina: 1. Pollen and microscopic charcoal. Presented at the Annual Meeting of the Geological Society of America, Vancouver, BC.

- (52) *Nester, J., *K. Barket, D.G. Gamble, and **C.S. Lane**, 2014. Multi-proxy evidence of late Quaternary paleoenvironmental change in the southeastern United States from two Carolina bays in North Carolina: 2. Stable isotopes and macroscopic charcoal. Presented at the Annual Meeting of the Geological Society of America, Vancouver, BC.
- (51) *Zivkovic, J., A.J. Wagner, D.M. Anderson, and **C.S. Lane**, 2014. Decadal variations in Western Pacific Warm Pool dynamics evidenced by corals from Chuuk Atoll, Federated States of Micronesia. Presented at the Ocean-Human-Climate and Ocean Resources Forum (US-Korea Conference), San Francisco, CA.
- (50) **Lane, C.S.**, *P. Reidhaar, C. Benitez-Nelson, and D. Gamble, 2014. Spatial and temporal variations in *Pyrodinium bahamense* cyst abundance in Mangrove Lagoon sediments, Salt River Bay, St. Croix. Presented at the Mangrove Lagoon Research Symposium, National Park Service, Christiansted, St. Croix, USVI.
- (49) **Lane, C.S.**, **B. Hildebrandt, L. Kennedy, A. LeBlanc, and K-B. Liu, 2014. Stable oxygen isotope composition of ostracod valves in lagoon sediments as a proxy for prehistoric tropical storm strikes. Presented at the Annual Meeting of the Association of American Geographers, Tampa Bay, FL.
- (48) *Kerr, M.T., S.P. Horn, and **C.S. Lane**, 2014. Stable isotope analysis of land-use history at Laguna Santa Elena, Costa Rica. Presented at the Annual Meeting of the Association of American Geographers, Tampa Bay, FL.
- (47) *Ballard, J.P., S.P. Horn, **C.S. Lane**, Z-H Li, S. Driese, and T.V. Lowell, 2014. Late Glacial fire and nitrogen dynamics at lacustrine sites in Alabama and Michigan: evidence of an acid rain event? Presented at the Annual Meeting of the Association of American Geographers, Tampa Bay, FL.
- (46) Haberyan, K. A., S.P. Horn, K.H. Orvis, and **C.S. Lane**, 2014, An 18,200 year diatom record from a glacial lake in Costa Rica. Presented at the Annual Meeting of the American Quaternary Association, Seattle, WA.
- (45) Tanner, B., **L. Martin, **C.S. Lane**, R. Young, and B. Collins, 2014. A Southern Appalachian Organic-Rich Wetland Deposit Provides Evidence for Mid-Holocene Hypsithermal in Location of Current Warming Hole, North Carolina. Presented at the Annual Meeting of the Southeast Division of the Geological Society of America, Blacksburg, VA.
- (44) *Albritton, C., T. LaMaskin, **C.S. Lane**, M. Orchard, and C. McRoberts, 2014. Locating the Carnian-Norian boundary in the Martin Bridge Limestone, Blue Mountains Province, Oregon: Initial results of conodont biochronology and stable isotope geochemistry. Presented at the Annual Meeting of the Rocky Mountain/Cordilleran Division of the Geological Society of America, Bozeman, MT.
- (43) *Kerr, M.T., S.P. Horn, **C.S. Lane**, 2014. The relationship between organic matter and organic carbon in lake sediments from Laguna Santa Elena, Costa Rica: A preliminary assessment of the potential as a paleoenvironmental proxy. Presented at the University of Tennessee Research Symposium, Knoxville, TN.
- (42) **Bleakney, S.A., *M.T. Kerr, S.P. Horn, and **C.S. Lane**, 2014. Stable isotopic signatures in charcoal from a Costa Rican sediment core. Presented at the University of Tennessee Research Symposium, Knoxville, TN.
- (41) *Tedick, A.M., **C.S. Lane**, D.W. Gamble, and A.J. Wagner, 2013. Paleolimnological evidence of historical land use change from multiple sites on the island of St. Croix, USVI. Presented at the Annual Meeting of the Geological Society of America, Denver, CO.
- (40) *Pierce, C.N., A.D. Hawkes, *A.M. Tedick, J. Donnelly, R.L. Evans, A.D. Ashton, and **C.S. Lane**, 2013. The development of a high resolution sea-level record for the Florida panhandle. Presented at the Annual Meeting of the Geological Society of America, Denver, CO.
- (39) **Lane, C.S.**, S.P. Horn, **M. Kerr, and K.H. Orvis, 2013. Compound-specific hydrogen isotope evidence of Late-Quaternary paleohydrology in the highlands of Costa Rica. Presented at the Annual Meeting of the Association of American Geographers, Los Angeles, CA.
- (38) Horn, S.P., K.H. Orvis, K.A. Haberyan, D. Cozadd, and **C.S. Lane**, 2013. An 18,200 year record of climate and environment from a glacial lake in Costa Rica. Presented at the Annual Meeting of the Association of American Geographers, Los Angeles, CA.
- (37) *Ballard, J. P., Z-H Li, **C.S. Lane**, and S.P. Horn, 2013. Stable isotope analyses of sediments from southeastern U.S. wetlands indicate significant hydroclimate shifts from the Late Quaternary to the Holocene. Presented at the Annual Meeting of the Association of American Geographers, Los Angeles, CA.
- (36) **Jazwinski, J., **T.J. Klienfelter, **M.B. Schaubach, M.M. Benedetti, J.A. Haws, **C.S. Lane**, T.A. Minckley, and S.L. Forman, 2013. The last glacial cycle on the Iberian Atlantic Coast: Sedimentary evidence from Praia Rei Cortico and Praia d'El Rei, Central Portugal. Poster presented at the Annual Meeting of the Association of American Geographers, Los Angeles, CA.

- (35) Billings, S. S.E. Ziegler, F. Ballantyne, C. Lehmeier, J. Li, and **C.S. Lane**, 2012. Soil warming across timescales: from enzyme kinetics to biogeochemical indicators. 5th International Workshop on Soil and Sedimentary Organic Matter Stabilization and Destabilization, Switzerland.
- (34) **Lane, C.S.**, J.J. Clark, and A. Knudsen, 2012. A paleolimnological record of environmental change and bioluminescence from Laguna Grande, Puerto Rico. Presented at the Annual Meeting of the Association of American Geographers, New York, NY.
- (33) Ziegler, S.E., S.A. Billings, **C.S. Lane**, J. Li, and M. Fogel, 2012. Warming alters the routing of labile and slower-turnover carbon through distinct microbial groups in boreal forest organic soils. Presented at the Annual Meeting of the American Geophysical Union, San Francisco, CA.
- (32) Li, J., S.E. Ziegler, **C.S. Lane**, and S.A. Billings, 2011. Mineralization of organic matter with warming in boreal forest soils is influenced by nitrogen dynamics. Presented at the Annual Meeting of the American Geophysical Union, San Francisco, CA.
- (31) Billings, S., S.E. Ziegler, J. Li, and **C.S. Lane**, 2011. [Nitrogen as a mediator of soil organic matter decomposition in a changing climate: Linking stable isotopes, organic geochemistry, and microbial ecology. Presented at the Annual Meeting of the Ecological Society of America, Austin, TX.
- (30) *Schoen, A., S.P. Horn, **C.S. Lane**, and J.J. Clark, 2011. 7600 Cal Yr Environmental Record from Laguna Tortuguero, Puerto Rico. Presented at the Annual Meeting of the Association of American Geographers (AAG), Seattle, WA.
- (29) Billings, S., J. Li, S.E. Ziegler, and **C.S. Lane**, 2011. Linking biogeochemical time scales to understand boreal soil responses to climate change. Poster presented at the Humber River Basin Project Meeting, Cornerbrook, NL, Canada.
- (28) Ziegler, S.E., **C.S. Lane**, J. Li, and S. Billings. 2011. Linking Aquatic and Terrestrial Biogeochemistry to Assess the Impact of Climate Warming on Boreal Carbon Reservoirs. Poster presented at the Humber River Basin Project Meeting, Cornerbrook, NL, Canada.
- (27) **Lane, C.S.**, D.R. Lyon, and S.E. Ziegler. 2010. The Impact of Nutrient Enrichment on the Use of ¹³C-Labeled Substrates by Epilithic Biofilms in Headwater Streams. Poster presented at the Summer Meeting of the American Society of Limnology and Oceanography (ASLO), Sante Fe, NM.
- (26) Li, J., S.E. Ziegler, **C.S. Lane**, and S. Billings. 2010. Warming, Nitrogen Availability and Site Variation Interact to Govern Soil Microbial Substrate Choice and CO₂ Release Along a Boreal Forest Transect. Presented at the Annual Meeting of the American Geophysical Union (AGU), San Francisco, CA.
- (25) Li, J., S.E. Ziegler, **C.S. Lane**, and S. Billings. 2010. Warming Enhanced Microbial Mineralization of Slow-Turnover Soil Organic Matter Along a Boreal Forest Transect. Poster presented at the Annual Meeting of the Ecological Society of America (ESA), Pittsburgh, PA.
- (24) Ziegler, S.W., E.J. Bonnell, **C.S. Lane**. 2010. Boreal Stream Dissolved Organic Matter Composition Among Contrasting Subcatchments in a Large Newfoundland Watershed. Paper presented at the Summer Meeting of the American Society of Limnology and Oceanography (ASLO), Santa Fe, NM.
- (23) Ziegler, S.E., S.A. Billings, J. Li, **C.S. Lane**. 2010. Developing Watershed-Scale Indicators for Boreal Forest Soil Organic Matter Change with Climate Warming. Poster presented at Humber River Basin Project Meeting, Cornerbrook, NL, Canada.
- (22) Bonnell, J., **C.S. Lane**, S.E. Ziegler. 2010. CPMAS ¹³CNMR of Freshwater Dissolved Organic Matter from Multiple Watersheds within the Humber River Basin. Poster presented at Humber River Basin Project Meeting, Cornerbrook, NL, Canada.
- (21) Horn, S.P., M.J. Valente, Z.P. Taylor, M.A. Caffrey, C.A. Underwood, **C.S. Lane**, D.B. Lewis. 2009. Educational Outreach on Pollen and Other Proxy Indicators in Sediment Records of Environmental Change. Paper presented at the Annual Meeting of the Association of the AASP- The Palynological Society, Kingsport, TN.
- (20) **Lane, C.S.**, S.P. Horn, K.H. Orvis, and **J. Thomason. 2009. Sedimentary Evidence of Increased Aridity in the Mid-Elevations of the Dominican Republic During the Little Ice Age. Paper presented at the Annual Meeting of the Association of American Geographers, Las Vegas, NV.
- (19) **Cummings, K.E., **C.S. Lane**, Clark, J. 2009. Refining the Spatial Scale of Lacustrine Proxies of Maize Cultivation. Poster presented at the Annual Meeting of the Association of American Geographers, Las Vegas, NV.
- (18) **Schoen, A. and **C.S. Lane**. 2009. Sedimentary Evidence of Shifting Paleoceanographic Conditions During the Late Holocene from the LaHave Basin. Poster presented at the Annual Meeting of the Association of American Geographers, Las Vegas, NV.

- (17) *Valente, M.J., S.P. Horn, A. Nájera, **C.S. Lane**, and Z.P. Taylor. 2009. Paleoecology of an Endemism Hotspot: Evidence from Poza and Marsh Sediments of Cuatrociénegas, Mexico. Poster presented at the International Biogeography Society Meeting, Merida, Mexico.
- (16) **Lane, C.S.**, S.P. Horn, Z.P. Taylor, C.I. Mora, and K.H. Orvis. 2008. The Importance of Prehistoric Maize Cultivation in the Interior of Hispaniola. Paper presented at the Annual Meeting of the Association of American Geographers, Boston, MA.
- (15) Horn, S.P., **C.S. Lane**, C.I. Mora, K.H. Orvis, and Z.P. Taylor. 2007. Paleoecological Reconstruction of Early Agriculture and Landscape Change in Costa Rica and the Dominican Republic: Approaches to Improve Spatial Resolution. Paper presented at the Annual Meeting of the Society for American Archaeology, Austin, Texas.
- (14) **Lane, C.S.**, C.I. Mora, S.P. Horn, and K.H. Orvis. 2007. Paleolimnological Evidence of Late-Holocene Precipitation Variability in the Dominican Republic and its Possible Impacts on Prehistoric Human Populations. Paper presented at the Annual Meeting of the Association of American Geographers, San Francisco, CA.
- (13) Taylor, Z.P., **C.S. Lane**, S.P. Horn, C.I. Mora, and D. Finklestein. 2007. Lake Sediments as Archives of Spatially Varying Terrestrial Carbon Production: A High Resolution Test Using Surface Sediments from a Small Farm Pond in West Tennessee. Poster presented at the Annual Meeting of the Association of American Geographers, San Francisco, CA.
- (12) **Thomason, J., **C.S. Lane**, S.P. Horn, and K.H. Orvis. 2007. The Modern Distributions and Paleolimnological Significance of Ostracod and Charophyte Fossils in the Lakes of Las Lagunas, Dominican Republic. Poster presented at the Annual Meeting of the Association of American Geographers, San Francisco, CA.
- (11) **Lane, C.S.**, S.P. Horn, C.I. Mora, and K.H. Orvis. 2006. High Resolution Analyses of Sediment Characteristics, $\delta^{13}\text{C}_{\text{SOM}}$ Values, and Microfossils in Late Holocene Sediments from Laguna Castilla, Dominican Republic. Paper presented at the Annual Meeting of the Geological Society of America, Philadelphia, Pennsylvania.
- (10) **Lane, C.S.**, Z.P. Taylor, C.I. Mora, S.P. Horn, and K.H. Orvis. 2006. The Isotopic Impact of Prehistoric Maize Agriculture on Lacustrine Sedimentary Archives of Vegetation Change. Poster presented at the Annual Meeting of the Southeastern Division of the Geological Society of America, Knoxville, Tennessee.
- (9) **Lane, C.S.**, S.P. Horn, K.H. Orvis, and C.I. Mora. 2006. A Multi-Proxy Record of Paleoenvironmental Change in the Dominican Republic from Two Small Mid-Elevation Lakes. Paper presented at the Annual Meeting of the Association of American Geographers, Chicago, Illinois.
- (8) Remus, B.A., S.P. Horn, K.H. Orvis, A.J. Stork, **C.S. Lane**, and L.M. Kennedy. 2006. Searching for Pine Stomata in Circum-Caribbean Lake Sediments. Poster presented at the Annual Meeting of the Association of American Geographers, Chicago, Illinois.
- (7) **Lane, C.S.**, S.P. Horn, K.H. Orvis, and C.I. Mora. 2005. Preliminary Multi-Proxy Evidence of Paleoenvironmental Change in the Mid-Elevations of the Cordillera Central, Dominican Republic. Paper presented at the Annual Meeting of the Association of American Geographers, Denver, Colorado.
- (6) **Lane, C.S.**, Z.P. Taylor, C.I. Mora, and S.P. Horn. 2004. Reassessment of Prehistoric Human Impacts at Laguna Bonillita, Costa Rica, Using Stable Carbon Isotopes. Paper presented at the Annual Meeting of the Association of American Geographers, Philadelphia, Pennsylvania.
- (5) **Lane, C.S.**, S.P. Horn, and C.I. Mora. 2003. Stable Carbon Isotopes in Sediments as Indicators of Prehistoric Forest Clearance in Costa Rica. Paper presented at the Annual Meeting of the Association of American Geographers, New Orleans, Louisiana.
- (4) Orvis, K.H., and **C.S. Lane**. 2003. A New Controlled Method for Making Reference Charcoal in the Laboratory. Paper presented at the Annual Meeting of the Southeastern Division of the Association of American Geographers, Charlotte, North Carolina.
- (3) **Lane, C.S.**, S.P. Horn, and C.I. Mora. 2002. Paleoecological Significance of Stable Carbon Isotopes in Lake Sediments from the Páramo of Costa Rica. Paper presented at the Annual Meeting of the Geological Society of America, Denver, Colorado.
- (2) Doerner, J.P., R. Brunswig, and **C.S. Lane**. 2001. Holocene Climate and Vegetation Change in Rocky Mountain National Park. Paper presented at the Annual Meeting of the Association of American Geographers, New York, New York.
- (1) **Lane, C.S.**, and D. Sullivan. 2000. Biogeochemical Proxies of Paleoenvironmental Change. Poster presented at Undergraduate Research Symposium, University of Denver, Denver, Colorado.

INVITED PRESENTATIONS:

- North Carolina Department of Environmental Quality PFAS Meeting, North Carolina Natural History Museum, Raleigh, NC, January 2025
- Department of Biology, Wake Forest University, March 2023
- Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, September 2018
- National Ocean Sciences AMS Facility, Woods Hole Oceanographic Institution, October 2017
- Marine Science Program Colloquium, Coastal Carolina University, April 2017
- Department of Geography, Virginia Polytechnic University, October 2016
- Planet Oceans Seminar, University of North Carolina Wilmington, September, 2016
- Department of Biology and Marine Biology Colloquium Speaker, University of North Carolina Wilmington, October, 2015
- National Park Service, Salt River Bay National Park, May, 2014
- Department of Geography, University of Georgia, March, 2014
- Marine Science Program, University of South Carolina, March, 2013
- National Park Service, Salt River Bay National Park, January, 2013
- Department of Geological Sciences, East Carolina University, September, 2011
- Sigma Xi Research Symposium Keynote Speaker, University of North Carolina-Wilmington, April, 2011
- Department of Geography, University of Alabama, March, 2009
- Department of Geography, University of Richmond, November, 2008
- Department of Geography, California State University-Northridge, February, 2007

RESEARCH FUNDING

Total: \$6,285,431; Total to Lane/Home Institution (In Parentheses): \$2,649,701

- North Carolina Policy Collaboratory Per and Polyfluoralkyl Substances Testing (PFAST) Network, "Development and Proof of Concept of a Multidimensional Approach to Trace the Source of Per- and Polyfluoroalkyl Substances to the Atmosphere: Developing a Novel Environmental Forensics Tool", Co-PI's R. Mead and C.S. Lane. \$375,000 (\$375,000), 2022–2024.
- National Science Foundation (USAP), "Using Multiple Stable Isotopes to Investigate Middle to Late Holocene Ecological Responses by Adelie Penguins in the Ross Sea", Co-PI's S. Emslie and C.S. Lane. \$694,913 (\$694,913), 2022–2027.
- North Carolina Policy Collaboratory Per and Polyfluoralkyl Substances Testing (PFAST) Network, "Acquisition of an Orbitrap Exploris IOS Instrument", Co-PI's R. Mead and C.S. Lane. \$599,711 (\$599,711), 2024.
- UNCW College of Arts and Sciences Summer Professional Development Grant, (\$1,250), 2022
- UNCW Charles L. Cahill Award for Faculty Research and Development, "Assessing Potential Errors in Carbon Cycling Estimates due to Variable Biosynthetic Fractionation of Radiocarbon (^{14}C) by Vascular Plants", (\$4968), 2021–2022
- National Science Foundation (GSS), "Developing a Network of n-Alkane Hydrogen Isotope Records in to Identify Drivers and Impacts of Holocene Droughts", Co-PI's S.P. Horn, C.S. Lane, and D. Gamble. Total Award \$384,309 (\$168,579) 2017–2023
- National Science Foundation (GSS), REU Supplement for "Developing a Network of n-Alkane Hydrogen Isotope Records to Identify Drivers and Impacts of Holocene Droughts", Co-PI's S.P. Horn, C.S. Lane, and D. Gamble. Total Award \$7,342 (\$0) 2017–2018
- National Science Foundation (GSS), REU Supplement for "Developing a Network of n-Alkane Hydrogen Isotope Records to Identify Drivers and Impacts of Holocene Droughts", Co-PI's S.P. Horn, C.S. Lane, and D. Gamble. Total Award \$7,295 (\$0) 2021–2022
- National Science Foundation, "Doctoral Dissertation Research: Holocene Precipitation Variability and its Relationship to Prehistoric Agriculture and Fires", PI S. Horn and Co-PI M. Kerr. Total Award \$15,819 (\$3120 to Lane, Senior Personnel/Collaborator), 2017–2019
- UNCW Charles L. Cahill Award for Faculty Research and Development, "Bulk Sedimentary Hydrogen Isotope Analyses as a Proxy for Past Precipitation Variability in North Carolina", (\$5,000), 2017
- U.S. Office of Insular Affairs, "Water Chemistry, Phytoplankton, and Sediment Dynamics of Nearshore Habitats in Salt River Bay, St. Croix, USVI", PI: C.S. Lane, subcontract to B. Castillo (University of the Virgin Islands), (\$53,975), 2015–2016

- UNCW Summer Undergraduate Research and Creativity Award, "Compound-Specific Hydrogen Isotope Analysis of Singletary Lake Sediments", PIs C.S. Lane and A. Taylor (undergraduate), (\$5,000), 2015–2016
- UNCW Center for Marine Science Pilot Project, "Acquisition of a Hybrid Elemental Analyzer/Pyrolysis System for Increased Throughput and Enhanced Analytical Capabilities in the Stable Isotope Core Facility", Co-PI's: C.S. Lane and A.D. Hawkes, (\$41,740), 2016
- UNCW College of Arts and Sciences, "Summer Curriculum Development Grant for the Development of an Online Introduction to Weather and Climate Course", (\$3500), 2015
- National Science Foundation, "Doctoral Dissertation Research: Assessing the Magnitude and Timing of Prehistoric Native American Landscape Impacts in Northeastern North America", Co-PIs C. Yansa and A. Fulton. Total Award \$14,008 (~\$1,500 to Lane, Senior Personnel/Collaborator), 2015–2017
- National Science Foundation, "MRI: Acquisition of a gas chromatograph and isotope ratio mass spectrometer interface for compound-specific isotope analyses at the University of North Carolina Wilmington", Co-PI's: C.S. Lane, R. Mead, S. Emslie, N. Reber, A. Hawkes, (\$110,196), 2014–2017
- UNCW Charles L. Cahill Award for Faculty Research and Development, "Reassessment of Paleoenvironmental Change in Coastal North Carolina using Sediment Records from Carolina Bays", (\$3,000), 2014
- UNCW International Faculty Travel Grant in support of travel to the 2014 Annual Meeting of the Geological Society of America in Vancouver, CA, (\$1,000), 2014
- National Oceanic and Atmospheric Administration, "Oxygen Isotope Analyses of a Coral Core for Paleoclimate study in the Western Pacific Warm Pool", (\$5,000), 2013–2014
- National Park Service, "Ecological Characterization of Bioluminescence in Mangrove Lagoon, Salt River Bay, St. Croix, USVI", Co-PI's J.L. Pinckney, C. Benitez-Nelson, R. Long, C.S. Lane, C. Tomas, B. Castillo, K. Reale-Munroe, and M. Taylor. Total Award \$124,871 (\$25,793), 2012–2014
- University of North Carolina-Wilmington College of Arts and Sciences, "Summer Research Initiative", (\$3,500), 2012
- Center for Marine Science Pilot Project, "Linking Marine and Terrestrial Records of Paleoclimate Variability in the Circum-Caribbean: Application of a Newly-Developed Paleoprecipitation Proxy in the Dominican Republic", Co-PI's: C.S. Lane and N. Reber, (\$26,150), 2011–2012
- The Friends of UNCW Foundation, "Acquisition of a Dell Latitude XT2 Tablet Computer for Teaching Geography and Geology", (\$2,500), 2011–2012
- National Science Foundation, "Collaborative Research: Long-term Records of Hurricane Impacts on Tropical Ecosystems: Fire and Vegetation Response to Major Events", Co-PI's L. Kennedy and K-b. Liu, Total Award \$234,710 (~\$2,000 to Lane, collaborator), 2010–2012
- American Society of Limnology and Oceanography Early Career Travel Grant, (\$500), 2010
- Lawrence University Distinctiveness Grant, "Fusing Undergraduate Fieldwork and Laboratory Analyses in the Geosciences", Co-PI with J. Clark (\$2,200), 2009
- Monticello College Foundation Grant, "Stipend to Support Female Undergraduate Research" (\$4,800), 2008
- Association of American Geographers Research Grant, "Refining the Spatial Resolution of Lacustrine Proxies of Maize Cultivation", (\$1,000), 2008
- Academic Equipment Grant, Lawrence University, (\$1,500), 2007
- Academic Keys Foundation Future Faculty Grant Program, "Stipend for Undergraduate Research Assistant" (\$1,000), 2006
- University of Tennessee Travel Grant, (\$490), 2006
- Yates Dissertation Fellowship, University of Tennessee, (\$15,000), 2005
- Association of American Geographers Ph.D. Dissertation Research Grant, (\$500), 2005
- Biogeography Specialty Group of the Association of American Geographers Ph.D. Student Research Grant, (\$700), 2005
- Stewart McCroskey Memorial Fund, University of Tennessee, (\$500), 2005
- University of Tennessee Travel Grant, (\$200), 2004
- University of Arizona Radiocarbon Lab, awarded six AMS radiocarbon dates for master's thesis research project, (\$3,600 in kind), 2003
- University of Tennessee Travel Grant, (\$100), 2003
- Hilton Smith Ph.D. Fellowship, University of Tennessee, (\$15,000), 2003

- Keck Summer Research Grant/Stipend, University of Denver, (awarded 3 times, total of \$9,000), 1998–2001
- Partners in Scholarship Research Grant, University of Denver, (\$500), 1999

OTHER GRANT WRITING EXPERIENCE:

- USGS Water Resources Research Institute, "Development and Proof of Concept of a Multidimensional Approach to Trace the Source of Per- and Polyfluoroalkyl Substances to Drinking Water Supplies: A Novel Environmental Forensics Tool", Declined, Total Award \$480,034 (\$239,623)
- National Science Foundation (OCE), "Assessment of Compound-Specific ^{14}C Abundance in Modern Terrestrial Biomarkers: Ramifications for Carbon Cycling Estimates and Sedimentary Chronologies", Co-PI's C.S. Lane and R. Mead. Declined (\$231,085).
- National Geographic Society, "The Interplay Between Social and Environmental Change in Prehistoric Costa Rica", Co-PI's S.P. Horn, L.G. Artavia Rodriguez, E. Johanson, C.S. Lane, M. Murillo Herrera, C. Rodriguez Arias. Declined. \$107,000 (\$5,000).
- National Ocean Sciences Accelerator Mass Spectrometry Lab Research Initiative, "Assessment of ^{14}C Fractionation in Modern Plants during Lipid Biosynthesis", PI C.S. Lane. Program Discontinued. \$3,984 (in kind), 2018–2019.
- National Science Foundation (P2C2), "Collaborative Research and RUI: Reassessment of Late-Quaternary Paleoclimatology in the Southeastern United States with the Application of Geographically Novel Proxies at New and Established Sites", Co-PI's C.S. Lane, D. Gamble, B. Tanner, and D. Porinchu. Declined. \$294,572.
- National Science Foundation (GSS), "Patterns and Consequences of Late Holocene Droughts in the Circum-Caribbean", Co-PI's C.S. Lane, D. Gamble, S.P. Horn. Declined. \$489,233
- National Geographic Society, "Ridge to Reef Reconstruction of Historic Anthropogenic Land Use and Resultant Coral Reef Impacts in the New World", Co-PI's C.S. Lane, D.G. Gamble, and A. Wagner. Declined. \$18,295.
- Southeast Climate Science Center, "Holocene Climate and Land Use History of St. Croix: Implications for Future Climate Change and Cultural Adaptation", Co-PI's J. Richey, C.S. Lane, and J.M. Torres. Declined. \$291,274.
- National Science Foundation (Sedimentary Geology and Paleobiology), "Collaborative Research: Testing the Long Norian Hypothesis: Investigation of a Late Triassic Mixed Limestone and Volcanic Succession, Eastern Oregon and Western Idaho", Co-PI's T. LaMaskin, C.S. Lane, C. McRoberts, and M. Schmitz. Declined. \$349,960.
- National Science Foundation (GSS), "Collaborative Research and RUI: Synoptic-Scale Precipitation Variability in the Circum-Caribbean Region over the Late Holocene", Co-PI's C.S. Lane, S.P. Horn, and D. Gamble. \$523,787. Declined.
- National Science Foundation, 'Ridge to Reef': A Coupled Terrestrial-Marine Landscape History of St. Croix, USVI, Co-PI's: C.S. Lane, D.G. Gamble, A.J. Wagner. \$361,518 (~\$150,000). Declined.
- North Carolina Sea Grant, "Assessing the Potential for Increased Drought Occurrence in the North Carolina Coastal Plain using Sedimentary Paleoclimate Records", Co-PI's C.S. Lane and D. Gamble. \$160,390. Declined
- University of North Carolina Wilmington College of Arts and Sciences, "Acquisition of a New Gas Chromatograph-Mass Spectrometer (GC-MS) for Undergraduate Instruction and Interdisciplinary Research", PI C.S. Lane, (\$56,864). Declined.
- National Science Foundation, "Collaborative Research: Testing the hypothesis of a long Norian stage: integrated conodont, ammonite, and bivalve biostratigraphy and high-resolution U-Pb geochronology", Co-PI's T. LaMaskin, C.A. McRoberts, C.S. Lane, R. Laws. \$258,341 (~\$17,000). Declined.

PROFESSIONAL SERVICE

- Peer-reviewer for the professional journals *Science Advances*; *Scientific Reports*; *Geology*; *Organic Geochemistry*, *Geochimica et Cosmochimica Acta*; *Quaternary Science Reviews*, *Geophysical Research Letters*; *PLOS One*; *JGR-Biogeosciences*; *Holocene*; *Quaternary International*; *Quaternary Research*; *Journal of Paleolimnology*; *Climate of the Past*; *Frontiers in Ecology and Evolution*; *Chemosphere*; *Applied Geochemistry*; *ACS Sustainable Chemistry and Engineering*; *Estuaries and Coasts*; *Estuarine, Coastal and Shelf Science*; *The Journal of Coastal Research*; *Vegetation History and Archaeobotany*; *Sedimentology*; *Rapid Communications in Mass Spectrometry*; *Radiocarbon*; *PeerJ*; *Castanea*; *Hydrological Processes*; *Journal of Geography*; and *Forest Ecology and Management*
- Peer-reviewer for numerous National Science Foundation (NSF) grant proposals
- Peer-reviewer for multiple Natural Sciences and Engineering Research Council of Canada (NSERC) grant proposals
- Peer-reviewer for multiple National Geographic Society grant proposals

- Peer-reviewer for American Chemical Society (ACS) Petroleum Research Fund (PRF) grant proposals
- Peer-reviewer for multiple Sea Grant proposals
- Peer-reviewer for Indiana Water Resources Research Center Grants
- Reviewer- Pearson Publishing online materials for introductory oceanography textbooks
- Reviewer- Pearson Publishing online materials for introductory physical geography and meteorology textbooks
- Review Editor (Invited Board Position) for *Frontiers in Paleoecology* (Nature Publishing Group)
- Panelist/Discussant "Engaging Undergraduates in Research" Annual Meeting of the Southeast Division of the American Association of Geographers, Wilmington, NC, 2019
- Coordinator of Paleoenvironmental Change Specialty Group Student Presentation Competition, Association of American Geographers, 2012–2014
- Director of the Paleoenvironmental Change Specialty Group, American Association of Geographers, 2012–2014
- Panelist/Discussant "Postdoctoral and Early Career Advice" Annual Meeting of the American Association of Geographers, Tampa Bay, FL, 2014
- Listserv Manager for Biogeography Specialty Group of the American Association of Geographers, 2007–2014
- Peer-reviewer for New Physical Geography Text: Orvis, K.H. and J. Tasch 2012. *Physical Geography Tomorrow: Operations Manual for an Inhabited Blue Planet*. W.H. Freeman and Company.
- Judge for Climate Specialty Group Student Presentation Competition, Annual Meeting of the Association of American Geographers, 2012
- Peer-reviewer The Proceedings of the 15th Symposium on the Geology of the Bahamas and other Carbonate Regions, 2011
- Judge for Biogeography Specialty Group Student Presentation Competition, Annual Meeting of the Association of American Geographers, 2010–2012
- Graduate student representative for the Biogeography Specialty Group of the Association of American Geographers (elected to position twice), 2005–2007
- Organizer and chair "Grants for Biogeographers: How to Successfully Fund Your Teaching and Research" Annual Meeting of the Association of American Geographers, San Francisco, CA, 2007
- Organizer and chair "Employment as a Biogeographer: Prospects, Insights, and Advice" Annual Meeting of the Association of American Geographers, Chicago, IL, 2006
- Co-chair "Climate, Fire, and Human Impact Histories from Tropical Lake Sediments and Ice", Annual Meeting of the Association of American Geographers, Philadelphia, PA, 2004
- Co-chair "Paleoenvironments and Biogeographic History of the Rocky Mountain Region", Annual Meeting of the Association of American Geographers, Philadelphia, PA, 2004

DEPARTMENTAL, UNIVERSITY, AND COMMUNITY SERVICE

- Coastal and Marine Science Council Member (elected, departmental representative; 2021–2022)
- UNCW College of Arts and Sciences Course Buyout Policy Committee (2022–2023)
- Associate Director for Administrative Services at the Center for Marine Science Search Committee Member (2021)
- Executive Director of the Center for Marine Science Search Committee Member (2021)
- Coastal and Marine Science Council Vice-Chair (elected, 2019–2020)
- Coastal and Marine Science Council Chair (elected, 2018–2019)
- Coastal and Marine Science Council Member (elected, at-large representative; 2018–2020)
- Applied Coastal and Ocean Sciences Ph.D. Program Development Committee (2019–2020)
- UNCW Graduate Council (2017–2021)
- UNCW Convocation Academic Orientation Faculty Volunteer (2013–Present)
- Activity Organizer, Oceans-17 Summer Camp Outreach, University of North Carolina Wilmington (2013–Present)
- Geology Curriculum Committee, Department of Earth and Ocean Sciences, University of North Carolina-Wilmington (2018–2022)

- Geography Curriculum Committee, Department of Earth and Ocean Sciences, University of North Carolina-Wilmington (2011–2022)
- Oceanography Program Committee, Department of Earth and Ocean Sciences, University of North Carolina-Wilmington (2011–2022)
- Annual Evaluations Committee, Department of Earth and Ocean Sciences, University of North Carolina-Wilmington (2016–2020)
- Committee Member for Assistant Professor of GISciences Faculty Search Committee, Department of Earth and Ocean Sciences, University of North Carolina-Wilmington (2019–2020)
- UNCW Student Affairs and Grade Appeal Sub-Committee of the UNCW Graduate Council (2018–2019)
- UNCW Unmanned Aerial Systems Policies and Procedures Committee (2017–2019)
- CAS One-Time Equipment Award Committee (2018–2019)
- UNCW Faculty Senate Representative for the Department of Earth and Ocean Sciences (2017–2018)
- Chair of Assistant Professor of Coastal Hazards Faculty Search Committee, Department of Earth and Ocean Sciences, University of North Carolina-Wilmington (2017–2018)
- Ad Hoc Marine Science Council Planning Committee (2017)
- University of North Carolina Wilmington Center for Marine Science Faculty Advisory Committee, University of North Carolina-Wilmington (2015–2017)
- Graduate Program Advisory Committee, Department of Earth and Ocean Sciences, University of North Carolina-Wilmington (2015–2017)
- Judge, Southeast North Carolina Regional Science Fair (2011–2014; 2017)
- Open-Rank Cluster Hire Search Committee, UNCW College of Arts and Sciences (2017)
- Chair of UNCW Center for Marine Science Self-Study Sub-Committee on Administrative Structure (2017)
- Library Representative, Department of Geography and Geology, University of North Carolina-Wilmington (2013–2016)
- UNCW College of Arts and Sciences Grade Appeals Committee (2016)
- Co-Chair Assistant Professor of Geohydrology Faculty Search Committee, Department of Geography and Geology, University of North Carolina-Wilmington (2015–2016)
- Ad-Hoc Departmental Rebranding Committee, Department of Geography and Geology, University of North Carolina-Wilmington (2015)
- University of North Carolina Wilmington Center for Marine Science Internal Advisory Committee, University of North Carolina-Wilmington (2012–2014)
- Public Relations and Student Incentives Committee, Department of Geography and Geology, University of North Carolina-Wilmington (2012–2014)
- Ad-Hoc Marine Science Faculty Committee on CMS/CREST Organization at UNCW (2013)
- Speaker at National Park Service Symposium on Bioluminescence in Salt River Bay National Park, St. Croix (2014)
- Invited Speaker, University Studies Transdisciplinary Clusters Orientation, University of North Carolina-Wilmington (2013)
- Discussant for UNCW Screening of Climate Change Documentary 'Chasing Ice' (2013)
- Public Lecture on Bioluminescence in Salt River Bay National Park, St. Croix (2013)
- Committee member for Assistant Professor of Paleoceanography/Marine Geology Search, Department of Geography and Geology, University of North Carolina-Wilmington (2012–2013)
- Committee member for Assistant Professor of Applied Geography Search, Department of Geography and Geology, University of North Carolina-Wilmington (2012–2013)
- Classroom Visitation Committee, Department of Geography and Geology, University of North Carolina-Wilmington (2011–2013)
- Department Assessment Committee, Department of Geography and Geology, University of North Carolina-Wilmington (2011–2012)
- Committee member for Assistant Professor of Geophysics Search, Department of Geography and Geology, University of North Carolina-Wilmington (2012)

- Committee member for Visiting Research Assistant Professor Search, Department of Geography and Geology, University of North Carolina-Wilmington (2011)
- Evaluator/Grader, General Education Scoring Assessment, UNCW (2011, 2012)
- Judge, Lawrence University Science Fair (2010)
- Presenter, Lawrence University Science Lab Day (2009)
- Presenter, Quarry Quest, Neenah, WI (2008)
- Volunteer, Green Bay Botanical Garden, Green Bay, WI (2007–2009)
- Presenter, South Doyle Elementary School (2006)
- Volunteer, Tennessee Council for the Social Studies and the Tennessee Geographic Alliance (2004–2006)
- Volunteer and Guide, University of Tennessee Earth Science Fair (2002–2006)
- Departmental Newsletter Coordinator, Department of Geography, University of Tennessee (2006)
- Presenter and Volunteer, Geographic Awareness Week Outreach Organized by the Tennessee Geographic Alliance (2003–2006)
- Student Volunteer, Annual Meeting of the Southeastern Division of the Geological Society of America (2006)
- Graduate student representative for GIS-Physical Geography Faculty Search Committee, Department of Geography, University of Tennessee (2005)
- Chair, University of Tennessee Department of Geography Faculty Awards Committee (2003)

TEACHING EXPERIENCE

University of North Carolina–Wilmington, Wilmington, NC

Course	Fall Semester	Spring Semester	Summer
GGY 230: Introduction to Weather and Climate	2011–2020 (2 sections)	2011–2022 (2 sections)	2014–2019
GLY 390: Sediments and Paleoclimate (Field and Lab Methods Course)	2012		
GGY/GLY 420/520: Global Climate Change	2015, 2017, 2019, 2021, 2022		
GGY/GLY 439/592: Paleoclimatology	2018, 2023, 2025	2013, 2015	
GGY432/592: Biogeography	2016	2014	
GLY/OCN 475: Marine Biogeochemistry	2011, 2013, 2014		
GGY/GLY 480: Paleoenvironmental Proxies		2011	
GGY/GLY/OCN 395: Senior Seminar	2024, 2026	2014, 2023, 2026	
GEO 502: Technical Communications in the Geosciences		2016–2023	

Guest Lectures: ANT 292: Archaeological Science; EVS 474: Wildland Fire Management; GEO 501: Introduction to Research; GGY 420: Global Climate Change; GGY 436: Ice Age Earth; GLY 425: Geological Oceanography; GLY 531: Micropaleontology

Memorial University, St. John's, NL, Canada

Guest Lectures: EAR 4903: Global Change

Lawrence University, Appleton, WI

Course	Years Offered
Env. Studies 150: Environmental Science	2007, 2008
Env. Studies 590: Tutorial in Pollen Analysis	2007
Geology 110: Introductory Geology	2007, 2008
Geology 214: Weather, Climate, and Climate Change	2008

Geology 425: Prehistoric Human-Environment Interactions	2007
Geology 427: Paleolimnology	2008
Geology 520: Paleoenvironmental Proxies	2007
Geology 550: Geology of Puerto Rico (Field Course)	2008

Guest Lectures: Anthropology 310: Ecological Anthropology; Env. Studies 650: Environmental Studies Senior Seminar

University of Tennessee, Knoxville, TN

Course	Years Offered
GGY131: Geography of the Natural Environment	2004
GGY 132: Geography of the Natural Environment	2006

Guest Lectures: GGY 411: Global Positioning Systems; GGY 434: Climatology; GGY 435: Biogeography; GGY 535: Seminar in Pollen Analysis

TEACHING & LEADERSHIP WORKSHOPS ATTENDED

AI Literacy and Intentional Course Design, UNCW, 2026

All In: Higher Education, Interdisciplinarity and Our Collective Climate Challenge, Duke University, 2024

Kansas State Academic Chairpersons Conference, New Orleans, LA, 2023

New Chairs Orientation Workshops, UNCW, 2021–2022

Leadership Enhancement and Administrative Development (LEAD) program, UNCW, 2021–2022

NextUP Faculty Fellows Institute, UNCW, 2018–2019

PKAL STEM Leadership Institute, 1-week intensive residential short course, 2018

Using ShareStream to Integrate Rich Media in Online Courses, UNCW, 2016

Academic Integrity, Office of E-Learning, UNCW, 2016

Mastering the Art of Screencasting, Office of E-Learning, UNCW, 2014

Designing Online Courses, Office of E-Learning, UNCW, 2014

Interpreting IDEA Scores, Center for Teaching Excellence, UNCW, 2014

Fostering Critical Thinking in the Classroom, Center for Teaching Excellence, UNCW, 2013

Increasing Commitment from Students, Center for Teaching Excellence, UNCW, 2013

Using Blackboard in the Classroom, Information Technology Systems, UNCW, 2012

Using Clickers in the Classroom, Information Technology Systems, UNCW, 2012

POSTDOCTORAL ADVISING:

Wojtal, P.K. 2024–Present. Co-Advised with Dr. Ralph Mead.

Wagner, A.J. 2011–2013. *Now Professor at Sacramento State University.*

GRADUATE STUDENT ADVISING:

Ph.D. Committee Member

Bletlinger, L. In Progress. Department of Geography, University of Tennessee, Knoxville, TN.

Carulli, M. In Progress. Applied Coastal and Ocean Sciences, University of North Carolina Wilmington, Wilmington N.C.

Blanco, C. In Progress. Applied Coastal and Ocean Sciences, University of North Carolina Wilmington, Wilmington N.C.

Boehm, M. 2020. Fire-Vegetation-Climate Interactions Across the Holocene on the U.S. Southeastern Coastal Plain. Department of Geography, University of Tennessee, Knoxville, TN.

Kerr, M. 2019. Holocene Precipitation Variability, Prehistoric Agriculture, and Natural and Human-set Fires in Costa Rica. Department of Geography, University of Tennessee, Knoxville, TN.

Johanson, E. 2016. Reconstructing Late Holocene Fire, Agriculture, and Climate from Sediment Records in Costa Rica and the Dominican Republic. Department of Geography, University of Tennessee, Knoxville, TN.

Ballard, J. 2015. Evidence of Late Quaternary Fires from Charcoal and Siliceous Aggregates in Lake Sediments in the Eastern U.S.A. Department of Geography, University of Tennessee, Knoxville, TN.

M.S. Thesis Advising

Dombrowski, A. 2024. Responding to the Per- and Polyfluoroalkyl Substances (PFAS) Contamination Crisis: Measuring Stable Isotopic Compositions of PFAS. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Collections Manager of Geology at the NC Museum of Natural Sciences*

Kho, P. 2022. Multi-Proxy Stable Isotope Analyses of Late Holocene Precipitation Variability and Vegetation Change at Laguna Maria Aguilar, Costa Rica. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now a Ph.D. Student at Columbia University*

Tomlinson, A. 2022. Compound-Specific Hydrogen Isotope Analysis of Lacustrine Sediments to Establish Late-Holocene Paleoprecipitation Dynamics at Laguna Arancibia, Costa Rica. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now a Geoscientist at Antea Group*

Yanusiewicz, E. 2019. Compound-Specific Stable Carbon and Hydrogen Isotope Analyses of Late-Holocene Vegetation and Precipitation Change at Laguna Los Mangos, Costa Rica. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now a Postdoctoral Scientist at the Royal Netherlands Institute for Sea Research*

Farrington, E. 2019. Sedimentary Geochemical and Palynological Evidence of Late-Holocene Paleoenvironmental Change from Baradères Bay, Haiti. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now an Environmental Project Manager at EG America*

Kwon, S. 2018. Bulk Sedimentary Hydrogen Isotope Analyses as Paleohydrologic Proxies in Jones and Singletary Lake, NC. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now a Marine Geoscientist at APTIM*

Grochowski, K. 2017. Paleolimnological Evidence of Prehistoric Human Activity from Piseco Lake, Adirondack Mountains, NY. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now a Geoscientist for GSI Environmental Inc.*

Massoll, J. 2016. Decadal Variations in Western Pacific Warm Pool Dynamics as Evidenced by *Porites* Corals from Chuuk Atoll, FSM. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now Assistant Limnologist for the Metropolitan Water District of Southern California*

Peth, J. 2015. Investigating the Utility of Foraminiferal Isotope Proxies for Sea-Level Variability in Bahia Blanca, Argentina. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now Coastal Policy Analyst at NOAA*

Barket, K. 2015. Pollen and Microscopic Charcoal Evidence of Environmental Change from Carolina Bay Sediments. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Ph.D. from University of Utah; Now Manager of Program Integration > and Data Analytics at Diligence Inc.*

Tedick, A. 2014. Impacts of Historic Land Clearance and Sugarcane Agriculture on Soil Erosion and Transport in St. Croix, USVI. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now at Medpace Drug and Biological Contract Research Organization*

Reidhaar, P. 2013. Spatial and Temporal Variations in *Pyrodinium bahamense* Cyst Concentrations in the Sediments of Mangrove Lagoon, St. Croix, USVI. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

**Now Museum Operations Supervisor at Zing Zumm Children's Museum of Jacksonville*

M.S. Thesis Committee Member

Vasquez, J. 2026. Spatial and temporal variation of trifluoroacetic acid in atmospheric deposition in North Carolina. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Parker, J. 2025. Optimization of the total oxidizable precursor assay to assess per- and polyfluoroalkyl substances assessing the importance of per- and polyfluoroalkyl substances in wet deposition: Analytical considerations. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

Munoz, V. 2025. Multiple stable isotope analyses of ancient and modern Adelie penguin bone collagen from the Ross Sea, Antarctica. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.

Young, K. 2024. Using random forest models to estimate firefighting personnel needs within the western United States. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Roan, C. 2023. Historic Costa Rican drought: Spatiotemporal analysis and relationships with precipitation and climate forcing mechanisms. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Sutherland, K.E. 2023. Stable isotope and mercury analysis of Black-Capped Petrel (*Pterodroma hasitata*) feathers to investigate trophic positions and foraging areas of light, dark, and intermediate forms. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.

Haidl, M. 2023. Groundwater controls on surface water thermal dynamics at Zeke's Island Reserve, North Carolina. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Zaffino, N. 2022. Paired $\delta^{13}\text{C}_{\text{carb}}$ and $\delta^{13}\text{C}_{\text{org}}$ record of the Late Devonian, Early-Middle Frasnian carbon isotope excursions from shallow marine carbonates, Nevada, USA. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Reaves, M.A. 2022. Stable Isotope Analysis of Adelie Penguin Bone Collagen: Assessing Ancient and Modern Foraging Grounds in the Ross Sea, Antarctica. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.

Blanco, C. 2022. 1050-Year Tropical Cyclone Frequency Reconstruction using Grain Size and $\delta^{18}\text{O}$ Analysis of Benthic Foraminifera in the Pelican Cays, Belize. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

Blentlinger, L. 2022. Climate, Fire, and Human History in Central American Savannas: New Paleoenvironmental Records from Belize and Costa Rica. Department of Geography, University of Tennessee, Knoxville, TN.

Lucas, A. 2021. Characterization of Chromophoric Dissolved Organic Matter (CDOM) in the Lower Cape Fear River and the Everglades using optical properties. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

Timbs, R. 2021. Landscape-scale and within-site variation in a sulfur-based sediment stress indicator for the seagrass *Thalassia testudinum* in Florida Bay. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.

Warren, E. 2020. Late Quaternary Period terrace formation and channel pattern in the Cape Fear River valley. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Ciriani, Y.A. 2020. Stable isotope analysis of multiple tissues from chick carcasses of three Pygoscelid penguins in Antarctica. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.

Perry, A. 2019. The Late Devonian punctata Event caused by wind-driven nutrient flux, persistent oceanic anoxia, and global transgression, Guilmette Formation, eastern Nevada, USA. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Cecil, J. 2019. A multiproxy record of paleoenvironmental change from a southern Belizean pine savanna. Department of Geography, University of Tennessee, Knoxville, TN.

Chaffin, A. 2019. Organic nitrogen load sourcing in North Carolina coastal plain water using stable nitrogen isotope analysis. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

Dettweiler, D. 2018. Phytosterols as tracers of terrestrial and wetland carbon to Ten Thousand Islands, Florida, USA. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

Koester, O. 2018. Stable carbon isotope analysis of the Late Devonian Alamo impact breccia at Devil's Gate Section, Central Nevada. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Zarn, A. 2018. Stable isotope and mercury analyses of the Galapagos Islands seabird community. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.

Adams, C.S. 2017. Foraminiferal estimate of coseismic subsidence from southern Washington during the AD 1700 megathrust earthquake. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

O'Donnell, R. 2017. Geochemical variance of salt marshes along the Cascadian subduction zone and their utility in estimating coseismic subsidence. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.

- Casas, M. S. 2016. Determination of the $\delta^{13}\text{C}$ composition of ethanol in precipitation using gas-chromatography-combustion-isotope ratio mass spectrometry (GC-C-IRMS): Sourcing biofuel in rainfall of Wilmington, NC and Ribeirao Preto, Brazil. Department of Chemistry and Biochemistry, University of North Carolina Wilmington, Wilmington, NC.
- Kelly, B. 2016. Isotopic and taphonomic study of fossil *Glycymeris* bivalve shells: Implications for naticid gastropod predation habits and paleoreconstruction of the North Carolina Pleistocene. Department of Geography and Geology, University of North Carolina Wilmington, Wilmington, NC.
- Thomas, R. 2016. Analysis of Ambient Ethanol Concentrations in Rainwater Utilizing Solid Phase Microextraction. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.
- Capar, P. 2016. Developing high-resolution relative sea-level records and validating sea-level index points in southeastern North Carolina. Marine Sciences Program, University of North Carolina Wilmington, Wilmington, NC.
- Stanford, S. 2016. Relationship of Prey Escalation to Frequency of Drilling Predation in Cenozoic Molluscs of the US Coastal Plain. Department of Geography and Geology, University of North Carolina Wilmington. Wilmington, NC.
- Sime, J. 2015. Predatory Interactions and Assemblage Diversity Across the Plio-Pleistocene Regional Mass Extinction in North and South Carolina. Department of Geography and Geology, University of North Carolina Wilmington, Wilmington, NC.
- Nester, J. 2015. Stable Isotope and Macroscopic Charcoal Evidence of Environmental Change from Carolina Bay Sediments. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.
- Little, J. 2015. Foraminiferal-Based Paleoenvironmental Reconstruction for Central Coastal Argentina. Geosciences Program, University of North Carolina Wilmington, Wilmington, NC.
- Albritton, C. 2014. A High-Resolution Stable Carbon and Oxygen Isotope Stratigraphy Spanning the Late Triassic (Carnian-Norian) from the Blue Mountains Province of Oregon, U.S.A. Department of Geography and Geology, University of North Carolina Wilmington, Wilmington, NC.
- Stokes, K. 2014. Paleoceanographic Conditions of the Western Antarctic Peninsula During the Holocene: A Study of Diatom Fossil Assemblages. Department of Geography and Geology, University of North Carolina Wilmington. Wilmington, NC.
- Newtoff, K. 2014. Spatial Variability in Mercury Exposure and Diet in Brown Pelicans (*Pelecanus occidentalis*) in North Carolina. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.
- Kerr, M. 2014. Stable Isotope Analysis of Lake Sediments from Laguna Santa Elena and Laguna Azul, Costa Rica. Department of Geography, University of Tennessee, Knoxville, TN.
- Korpanty, C. 2013. Live-Dead Fidelity of Molluscan Assemblages in Anthropogenically Impacted Seagrass Habitats: Siliclastic vs. Carbonate Environments. Department of Geography and Geology, University of North Carolina Wilmington, Wilmington, NC.
- Weiland, W. 2012. The Caribbean Mid-Summer Drought (MSD) and Ocean-Atmosphere Interactions: Analysis of San Salvador Island Rainfall Patterns and Ocean Basin Dynamics. Department of Geography and Geology, University of North Carolina Wilmington. Wilmington, NC.
- Schoen, A. 2011. Paleoenvironmental history of Laguna Tortuguero, Puerto Rico and the Northeastern Caribbean: Fusing terrestrial and marine records of paleoenvironmental change. Department of Geography, University of Tennessee, Knoxville, TN.
- Watson, B. 2011. Detection of the 8.2kya Event in Lake Sediments of the Valle de las Morrenas, Costa Rica. Department of Geography, University of Tennessee, Knoxville, TN.

M.S. Portfolio Committee Member

- Portelli, D. 2026. Environmental forensic analysis of per- and polyfluoroalkyl substances (PFAS) in the environment. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

UNDERGRADUATE RESEARCH ADVISING:

Advisor/Co-Advisor

- Bell, S.C. 2023. Fecal sterol concentrations in ancient sediments of Jones Lake and Singletary Lake. Directed Independent Study/Undergraduate Research Assistantship. Department of Geography and Geology, University of North Carolina Wilmington, NC.
- Meehan, K. 2017. Pretreatment effects on bivalve shells for isotopic analysis. Undergraduate Honors Research Project in Biology and Marine Biology/Earth and Ocean Sciences. University of North Carolina Wilmington, Wilmington, NC.

Taylor, A.K. 2016. Compound-specific hydrogen isotope analysis of sediments from Singletary Lake, NC. Directed Independent Study/Undergraduate Research Assistantship. Department of Geography and Geology, University of North Carolina Wilmington, NC.

**Ph.D. at University of Notre Dame; Now a NOAA Knauss Marine Policy Fellow*

Tanaka, S. 2014. Trace metal accumulation in sediments and fish of Greenfield Lake, North Carolina. Directed Independent Study in Oceanography. University of North Carolina Wilmington, Wilmington, NC.

Hildebrandt, B. 2013. Stable isotope evidence of prehistoric tropical storm strikes in the Dominican Republic. Undergraduate Honors Research Project in Oceanography. University of North Carolina Wilmington, Wilmington, NC.

**Now an Environmental Litigation Associate at Sidley Austin LLP*

Creech, G. 2012. Oxygen isotope evidence of prehistoric tropical storm strikes in the Dominican Republic. Directed Independent Study. Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC.

Kerr, M. 2012. Compound-specific δD records of paleohydrology in the mid-elevations of the Dominican Republic. Directed Independent Study/Undergraduate Research Assistantship. Departments of Geography and Geology and Anthropology, University of North Carolina Wilmington, Wilmington, NC.

Cummings, K.E. 2010. Refining the spatial resolution of lacustrine proxies of maize cultivation. Undergraduate Independent Research Project. Department of Geology, Lawrence University, Appleton, WI.

McFarlin, J. 2009. The history of bioluminescence in Laguna Grande, Puerto Rico. Undergraduate Independent Research Project. Department of Geology, Lawrence University, Appleton, WI.

Shay, D. 2008. Sedimentary records of Holocene vegetation and fire history from two small lakes in north-central Wisconsin. Undergraduate Independent Research Project. Department of Geology, Lawrence University, Appleton, WI.

Honor's Thesis Committee Member

Albiston, A. 2025. Examining nutrient dynamics and water quality around Masonboro Island Reserve. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

Collins, Z. 2025. Terrestrial impacts of Heinrich Events at Lapa do Picareiro, Portugal. Department of Earth and Ocean Sciences, University of North Carolina Wilmington, Wilmington, NC.

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MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

- Geological Society of America (GSA)
- American Geophysical Union (AGU)
- American Society of Limnology and Oceanography (ASLO)
- Association of American Geographers (AAG)
- Biogeography Specialty Group of the AAG
- Climate Specialty Group of the AAG
- Paleoenvironmental Change Specialty Group of the AAG
- Phi Beta Kappa
- Sigma Xi
- Gamma Theta Upsilon
- Golden Key National Honor Society