

Matthew Timothy Kerr

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Education:

University of Tennessee, PhD, Geography, 2019

Specialty Fields: Quaternary Environments, Prehistoric Human-Environment Interactions
Dissertation: Holocene Precipitation Variability, Prehistoric Agriculture, and Natural and Human-Set Fires in Costa Rica

Committee: Sally Horn (chair), David Anderson, Yingkui Li, and Chad Lane

Oscar Roy Ashley Fellow, 2018–2019

Chancellor's Fellow, 2014–2017

University of Tennessee, MS, Geography, 2014

Concentrations: Stable Isotope Analysis, Human-Environment Interactions, Paleoclimate

Thesis: Stable Isotope Analysis of Lake Sediments from Laguna Santa Elena and Laguna Azul, Costa Rica

Committee: Sally Horn (chair), Henri Grissino-Mayer, and Chad Lane

University of North Carolina Wilmington, BA, Anthropology with History Minor, 2012

Summa cum laude with Honors in Anthropology

Thesis: The Black Drink Project: Experimental Biomarker Development for a Southeastern Native American Tea

Advisor: Eleanora Reber

Distinguished Undergraduate Research Scholar

Professional Appointments:

University of Tennessee

Physical Geography Lecturer, 2019 to Present

Courses: GEOG 131: Weather, Climate, and Climate Change
GEOG 132: Landscapes and Environmental Change
GEOG 137: Honors: Weather, Climate, and Climate Change
GEOG 331: Natural Hazards
GEOG 345: People and Environment
GEOG 430: Global Environments of the Quaternary
GEOG 432: Environmental History from Tree Rings
GEOG 436: Water Resources
GEOG 493: Independent Study
GEOG 494: Undergraduate Research Experience
GEOG 497: Honors: Senior Thesis 1
GEOG 498: Honors: Senior Thesis 2
GEOG 506: Directed Readings
GEOG 509: Teaching College Geography

Graduate Research Assistant, 2017–2019

National Science Foundation Award #1660185: Developing a Network of *n*-Alkane Hydrogen Isotope Records to Identify Drivers and Impacts of Holocene Droughts (awarded to Sally Horn, Chad Lane, and Doug Gamble)

Instructor, University of Tennessee Kids U Summer Program, 2013–2018
Course: Collapse: The Fall of Complex Civilizations

Graduate Teaching Associate, spring 2015 and spring 2016
Course: GEOG 132: Landscapes and Environmental Change

Physical Geography Laboratory Supervisor, fall 2016
Course: GEOG 131: Weather, Climate, and Climate Change

Graduate Teaching Assistant, 2013–2014, spring 2017 (Head GTA 2014)
Courses: GEOG 131: Weather, Climate, and Climate Change
GEOG 132: Landscapes and Environmental Change
GEOG 415: Quantitative Methods in Geography

Graduate Research Assistant, 2012
UT Initiative for Quaternary Paleoclimate Research

University of North Carolina Wilmington
Undergraduate Research Assistant, 2011–2012
Archaeological Residue Laboratory, Department of Anthropology

Paleoenvironmental Change Research Group, Department of Earth and Ocean Sciences
Project: Compound-Specific Hydrogen Isotope Records of Paleoprecipitation Variability
in the Dominican Republic

Fieldwork Positions

Archaeology Field Crew Chief
Peace College 2011 Archaeological Field School, Brunswick Town-Fort Anderson State Historic Site, Winnabow, NC (Directed by Vincent Melomo and Thomas Beaman, Jr.)

Archaeology Field Technician
University of North Carolina, Greensboro 2010 Archaeological Field School, Old Salem Museums and Gardens, Winston-Salem, NC (Directed by Michael Hartley)

Grants, Scholarships, and Fellowships (Total: ~\$149,907)

2024 UT-URF Faculty Research Assistants Funding (FRAF) – \$1750
2023 UT-URF Advanced Undergraduate Research Activity (AURA) fund – \$2250 (w/Madlen Conley)
UT-URF Departmental Research Assistant (DRA) fund – \$1750
2022 HEERF Round 2 Funding – \$67,584 (w/Sally Horn)
2021 HEERF Round 1 Funding – \$20,871 (w/Sally Horn)
2019 UT Graduate Student Senate Travel Award – \$900
2018 Oscar Roy Ashley Graduate Fellowship – \$4,000
UT Graduate Student Senate Travel Award – \$850
2017 National Science Foundation Award #1657170: Doctoral Dissertation Research: Holocene Precipitation Variability and its Relationship to Prehistoric Agriculture and Fires (w/Sally Horn) – \$15,819

- Phi Kappa Phi Dissertation Fellowship – \$10,000
 UT Graduate Student Senate Travel Award – \$1,020
- 2016 AAG Biogeography Specialty Group – \$1,000
 Stewart K. McCroskey Memorial Fund – \$500
 UT Graduate Student Senate Travel Award – \$1,140
- 2015 Stewart K. McCroskey Memorial Fund – \$300
 UT-SARIF Summer Graduate Research Assistantship (w/Sally Horn) – \$3,600
 Stewart K. McCroskey Memorial Fund SU15 – \$300
 UT Graduate Student Senate Travel Award – \$700
- 2014 UT Department of Geography Travel Fund – \$200
 UT Graduate Student Senate Travel Award – \$950
 UT Ready for the World Special Project Grant (w/Vi Tran and Ruth Bowling) – \$3,479
- 2013 UT Graduate School funds to support Geography Symposium (w/Melanie Barron) – \$2,000
 UT Arts and Sciences funds to support Geography Symposium (w/Melanie Barron) – \$2,000
 Gamma Theta Upsilon Visiting Geographical Scientist Program (w/William Moseley) – \$524
 UT Department of Geography Travel Fund – \$300
 University of Tennessee Science Alliance Fellowship – \$1,000
- 2012 National Lambda Alpha Anthropology Honor Society Scholarship – \$5,000
 Research Supplies Grant, UNC-Wilmington – \$500
- 2011 Chancellor’s Teal Award for Research Travel, UNC-Wilmington (two awards) – \$2,000
 Honors Research Supplies Grant, UNC-Wilmington – \$500
- 2010 Honors Research Supplies Grant, UNC-Wilmington – \$500
 Anthropology Department High GPA Scholarship, UNC-Wilmington – \$500

Peer-Reviewed Publications

- 2024 Kerr MT, Horn SP, Lane CS. 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
- 2020 Kerr MT, Horn SP, Lane CS. Stable Isotope Analysis of Vegetation History and Land Use Change at Laguna Santa Elena in Southern Pacific Costa Rica. *Vegetation History and Archaeobotany* 29: 477–492. DOI: doi.org/10.1007/s00334-019-00755-0
- 2019 Reber EA, Kerr MT, Whelton HL, Evershed RP. Lipid Residues from Low-Fired Pottery. *Archaeometry* 61(1): 131–144. DOI: 10.1111/arc.12403
- 2018 Kerr MT, Horn SP, Grissino-Mayer HD, Stachowiak LA. Annual Growth Zones in Stems of *Hypericum irazuense* (Guttiferae) in the Costa Rican Páramos. *Physical Geography* 39(1): 38–50. DOI: 10.1080/02723646.2017.1340714
- 2016 Lane CS, Horn SP, Taylor ZP, Kerr MT. 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. DOI: 10.1016/j.quascirev.2016.06.004
- 2014 Lane CS, Horn SP, Kerr MT. Beyond the Mayan Lowlands: Impacts of the Terminal Classic Drought in the Caribbean Antilles. *Quaternary Science Reviews* 86: 89–98. DOI: 10.1016/j.quascirev.2013.12.017

- 2012 Reber EA, Kerr MT. The Persistence of Caffeine in Experimentally Produced Black Drink Residues. *Journal of Archaeological Science* 39(7): 2312–2319. DOI: 10.1016/j.jas.2012.02.008

Technical Reports

- 2024 Rochner M, Bassett H, Kerr M, Leland C, Livingston O, St. James A, Tucker C. “Dendrochronological Investigation of the Farm Manager’s Cabin, Holladay Place Outbuilding in Botetourt County, Virginia, USA.” Prepared for the Virginia Department of Historic Resources.
- 2022 Kerr MT, Conley MA. “Ages of two tree cores from the Cusick area of Loudon County, TN.” Prepared for the Tennessee Department of Agriculture Forestry Division.
- 2019 Horn SP, Boehm MS, Kerr MT. “Report on Paleoclimate Proxies in Sediments from the Henson Branch Histosol Site, Tennessee.” Prepared for the Tennessee Valley Authority.
- 2017 Horn SP, Kerr MT. “*Hypericum irazuense* Kuntze ex N. Robson in the Buenavista and Chirripó Páramos of Costa Rica: Photographs of Stem Cross Sections, Plants, and Study Sites.” The University of Tennessee, Knoxville. DOI: 10.7290/V76D5QXX
- 2016 Kerr MT, Reber EA. “Absorbed Residue Analysis of 15 Pottery Sherds, 1 Soil Sample, and 1 Unknown from the Barracks West of Battery A at Brunswick Town/Fort Anderson State Historic Site.” In: At Night We Sleep in a Shanty I Have Constructed of Planks, Logs, and Sand... on a Pile of Pine Straw: Archaeological Excavations of the Fort Anderson Overflow Barracks Area West of Battery A (31BW376**12) and Metal Detector Survey of a Suspected Barracks Area West of Battery B (31BW376**7) at Brunswick Town/Fort Anderson State Historic Site. Final report prepared by TB Beaman, Jr. and VH Melomo for Brunswick Town/Fort Anderson State Historic Site, Winnabow, North Carolina. Volume I: Technical Report, pp. F1–F36.
- 2014 Kerr MT, Horn SP, Lane CS, Johanson EN. “Report on Stable Carbon and Nitrogen Isotope Analysis of 6 Pottery Surface Residue Samples and 1 Soil Sample from Site L72NC, Costa Rica.” Prepared for the Laboratorio de Arqueología, Escuela de Antropología, Universidad de Costa Rica.
- Kerr MT, Horn SP, Lane CS, Johanson EN. “Report on Stable Carbon and Nitrogen Isotope Analysis of 3 Pottery Surface Residue Samples from Site C304AC, Costa Rica.” Prepared for the Laboratorio de Arqueología, Escuela de Antropología, Universidad de Costa Rica.
- Kerr MT, Boehm MS, Horn SP, Lane CS. “Report on Loss-on-Ignition, Pollen, and Stable Carbon and Nitrogen Isotope Analyses in Soil Samples from the Guayabo de Turrialba Site, Costa Rica.” In: Informe Proyecto Arqueológico: Estudio de los Límites Especiales y Temporales del Sitio Arqueológico Guayabo de Turrialba (C-362 MNG). Segunda Fase. Informe Temporada 2013. Prepared by GM Alarcón Zamora, Universidad de Costa Rica, Facultad de Ciencias Sociales, Escuela de Antropología, Laboratorio de Arqueología.
- 2012 Kerr MT, Reber EA. “Absorbed Residue Analysis of 14 Pottery Sherds, 1 Soil Sample, and 1 Unknown from the Barracks West of Battery A at Brunswick Town – Fort Anderson.” UNCW Anthropological Papers Vol. 21. Papers of the UNCW Residue Laboratory Vol. 16. Archaeological Residue Laboratory. University of North Carolina Wilmington, NC.
- Reber EA, Kerr MT. “Absorbed Residue Analysis of 10 Pottery Sherds from 8SU377.” UNCW Anthropological Papers Vol. 19. Papers of the UNCW Residue Laboratory Vol. 14. Archaeological Residue Laboratory. University of North Carolina Wilmington, NC.

- 2011 Reber EA, Kerr MT. "Absorbed Residue Analysis of 11 Sherds and 1 Soil Sample from the Graveline Mound Site, Mississippi." *UNCW Anthropological Papers* Vol. 17. Papers of the UNCW Residue Laboratory Vol. 12. Archaeological Residue Laboratory. University of North Carolina Wilmington, NC.

Professional Meeting Presentations

- 2024 Kerr MT, Baghetti LF, Kerr JN. "Trees Don't Last Forever in the Southeast: When Academic Timelines and Community-Based Research Collaborations Collide." A paper presented at the annual meeting of the Southeastern Division of the American Association of Geographers, Greenville, SC.
- McVey MJM, Horn SP, Lane CS, Kerr MT. "Bonilla Revisited: New Results from Stable Isotope and Magnetic Susceptibility Analyses." A paper presented at the annual meeting of the Southeastern Division of the American Association of Geographers, Greenville, SC.
- Bassett H, Kerr M, Leland C, Livingston O, St. James A, Tucker C, Rochner M. "Dendroarchaeology of the Farm Manager's House, Bowyer-Holladay House Site, Fincastle, Virginia." A paper presented at the 33rd annual Dendrochronology Field School, Mountain Lake Biological Field Station, Mountain Lake, VA.
- Kerr MT, Baghetti LF, Conley MA, Louis ME, Kerr JN. "Introducing the "Tuskega" Project: Stakeholder-Driven Geographic Investigations at an Antebellum Mansion and Plantation Site in Southeastern Tennessee." A virtual paper presented at the annual meeting of the American Association of Geographers, Honolulu, HI.
- Conley MA, Kerr MT, Baghetti LF, Kerr JN. "Evaluating Tree Succession to Inform Conservation Strategies at the McGhee-Carson Site in Vonore, Tennessee." A virtual paper presented at the annual meeting of the American Association of Geographers, Honolulu, HI.
- 2023 Alumbaugh JL, Horn SP, Kerr MT, Lane CS. "Non-Pollen Palynomorphs Compared to Other Proxies in the Sediments of Lago Morrenas 1, Costa Rica." A poster presented at the annual meeting of the American Association of Stratigraphic Palynologists – The Palynological Society, Lexington, KY.
- Collins-Key S, Bekker M, Horn S, Collins-Key J, Kerr M. "Wood Anatomical Anomalies as Indicators of Pathogen Infestation in Eastern Hemlock in Great Smoky Mountains National Park, Tennessee." A paper presented at the annual meeting of the American Association of Geographers, Denver, CO.
- Conley M, Kerr M, Baghetti L, Kerr J. "Eastern Red Cedar Trees Reveal Patterns of Land Use History at the McGhee Carson Site, Vonore, Tennessee." A poster presented at GeoSym 2023, the biennial UT Geography and Sustainability research symposium, Knoxville, TN.
- Conley M, Kerr M, Baghetti L, Kerr J. "Exploring the Dendroecological Potential of Eastern Red Cedars Trees to Inform Conservation Efforts at the McGhee Carson Site, Vonore, Tennessee." A poster presented at the annual Posters at the Capitol Meeting, Nashville, TN.
- 2022 Conley M, Kerr M, Baghetti L, Kerr J. "Exploring the Dendrochronological Potential of Eastern Red Cedar Trees at the McGhee-Carson Site, Vonore, Tennessee." A poster presented at the annual meeting of the Southeastern Division of the American Association of Geographers, Atlanta, GA.
- Collins-Key S, Bekker M, Horn S, Collins-Key J, Kerr M. "Pathogen Infestation and its Effects on Reconstructing Climate from Eastern Hemlock in Great Smoky Mountains National Park,

- Tennessee.” A paper presented at the annual meeting of the Southeastern Division of the American Association of Geographers, Atlanta, GA.
- Horn SP, Kerr MT, Lane CS, Haberyan KA, Blentlinger LR, Arford MR. “An 8000-year Precipitation Record from the Central American Dry Corridor.” A virtual paper presented at the annual meeting of the American Association of Geographers.
- Blentlinger LR, Horn SP, Lane CS, Kerr MT, Cecil JA, Smith C, Boehm MS. “Compound-Specific Stable Carbon and Hydrogen Isotope Analyses of Vegetation and Precipitation Change in a Belizean Pine Savanna.” A virtual paper presented at the annual meeting of the American Association of Geographers.
- Crain JA, Horn SP, Taylor ZP, Kerr MT. “Classifying Microscopic Charcoal Morphology to Improve Understanding of Fire History in Sediment Records from Neotropical Lakes.” A virtual paper presented at the annual meeting of the American Association of Geographers.
- 2021 Rafie SAA, Hoyt KP, Schubert MR, Kerr MT, Blentlinger LR, Faiia AM, Szynekiewicz A, Franklin JF, Horn SP, Hazen TC. “Soil Bacterial Response to Prescribed Fires in a Southern Appalachian Clear Cut with Fuel Manipulation.” A virtual poster presented at the World Microbe Forum.
- Horn SP, Kerr MT, Rodgers III JJ, Boehm MS, Alarcón-Zamora G, Lane CS. “Pollen and Stable Carbon Isotope Analysis at Guayabo de Turrialba and Laguna Azul, Costa Rica.” A virtual paper presented at the annual meeting of the American Association of Stratigraphic Palynologists – The Palynological Society, Natural History Museum, London, England.
- Lane CS, Yanuskiewicz E, Horn SP, Kerr MT, Taylor AK. “Interpretation of Age Offsets between Alkanes and Stratigraphically Coeval Sediments and Macrofossils in Lacustrine Cores.” A virtual paper presented at the annual meeting of the American Association of Geographers, Seattle, WA.
- 2020 Franklin AE, Kerr MT. “Studying Levels and Perceptions of Severe Weather Preparedness in UTK Students.” A virtual poster presented at EURēCA: The Exhibition of Undergraduate Research and Creative Achievement at the University of Tennessee, Knoxville, TN.
- LaFollette AG, Blentlinger LR, Clance JJ, Horn SP, Lane CS, Artavia LG, Kerr MT. “How sample pretreatments affect stable isotope values in lake sediments.” A virtual poster presented at EURēCA: The Exhibition of Undergraduate Research and Creative Achievement at the University of Tennessee, Knoxville, TN.
- Wright WJ, Horn SP, Cecil JA, Smith CE, Boehm MS, Arford MR, Kerr MT. “Point-counts of microscopic charcoal in lake sediments from Belize and Costa Rica: comparisons with other charcoal proxies of past fire.” A virtual poster presented at EURēCA: The Exhibition of Undergraduate Research and Creative Achievement at the University of Tennessee, Knoxville, TN.
- Kerr MT, Lane CS, Horn SP. “Developing Bulk Carbon and Nitrogen Isotope Records from Lake Sediments: Can We Use the Same Acid-Fumigated Samples for Both Analyses?” A paper accepted to the annual meeting of the American Association of Geographers, Denver, CO. (meeting cancelled due to COVID-19)
- Horn SP, Kerr MT, Lane CS, Haberyan KA, Arford MR. “An 8000-year Precipitation Record from the Central American Dry Corridor” A paper accepted to the annual meeting of the American Association of Geographers, Denver, CO. (meeting cancelled due to COVID-19)

- Lane CS, Yanuskiewicz E, Horn SP, Kerr MT, Taylor AK. "Interpretation of Age Offsets between Alkanes and Stratigraphically Coeval Sediments and Macrofossils in Lacustrine Cores." A paper accepted to the annual meeting of the American Association of Geographers, Denver, CO. (meeting cancelled due to COVID-19)
- 2019 Wright WJ, Horn SP, Cecil JA, Smith CE, Boehm MS, Arford MR, Kerr MT. "Point counting of microscopic charcoal in sediment cores from two Central American lakes." A poster presented at the annual meeting of the Southeastern Division of the American Association of Geographers, Wilmington, NC.
- Kerr MT, Horn SP, Lane CS. "A Revised Chronology of Paleohydrology and Vegetation Change at Laguna Bonillita, Costa Rica." A paper presented at the annual meeting of the American Association of Geographers, Washington, DC.
- Johanson EN, Kerr MT, Horn SP, Blentlinger LR, Lane CS. "A 4,200-year record of fire history from the southern Pacific Costa Rica lowlands." A paper presented at the annual meeting of the American Association of Geographers, Washington, DC.
- Yanuskiewicz E, Lane C, Johanson E, Kerr MT, Horn S. "Compound-Specific Stable Carbon Isotope Analysis of Vegetation and Land-Use Change at Laguna Los Mangos, Costa Rica." A paper presented at the annual meeting of the American Association of Geographers, Washington, DC.
- Horn SP, Boehm MS, Kerr MT, Wright WJ, Reed EE, Lane CS, Arford MR, Graham JE. "New Proxy Analyses from Laguna Martinez, Costa Rica." A paper presented at the annual meeting of the American Association of Geographers, Washington, DC.
- Boehm MS, Horn SP, Kerr MT, Driese SG, Lane CS. "Henson Branch Revisited: Holocene Environmental Dynamics in Western Tennessee." A paper presented at the annual meeting of the American Association of Geographers, Washington, DC.
- 2018 Kerr MT, Horn SP, Lane CS. "Sedimentary Nitrogen as a Proxy for Prehistoric Forest Clearance and Site Abandonment in Southern Pacific Costa Rica." A paper presented at the annual meeting of the Southeastern Division of the American Association of Geographers, Johnson City, TN.
- Blentlinger LR, Horn SP, Kerr MT, Lane CS. "Hydrogen Isotope Analysis of *n*-Alkanes in Sediments of Emerald Pond, Abaco Island, The Bahamas." A paper presented at the annual meeting of the Southeastern Division of the American Association of Geographers, Johnson City, TN.
- Horn SP, McKay LD, Cyr HJ, Driese SG, Perilla-Castillo PJ, Boehm MS, Kerr MT, Tran L. "A 1000-Year Paleoflood Record from the Tennessee River near Decatur, Tennessee." A paper presented at the annual meeting of the Geological Society of America, Indianapolis, IN.
- Kerr MT, Horn SP, Lane CS. "A 10,000 Year Hydrogen Isotope Record of Precipitation Variability from Highland Costa Rica." A paper presented at the annual meeting of the American Association of Geographers, New Orleans, LA.
- MacLennan E, Horn SP, Kerr MT, Lane C, Ellis K. "A Compound-Specific Hydrogen Isotope Record of Precipitation from Coastal North Hispaniola." A paper presented at the annual meeting of the American Association of Geographers, New Orleans, LA.
- Kerr MT, Horn SP, Grissino-Mayer HD, Stachowiak LA. "Annual Growth Zones in Stems of *Hypericum irazuense*: a New Fire Proxy in Highland Costa Rica." A paper presented at GeoSym 2018, the biennial UT Geography and Sustainability research symposium, Knoxville, TN.

- 2017 Blentlinger LR, Horn SP, Johanson EJ, Kerr MT, Lane CS, Boehm MS, Cecil JA. "Proxy Analysis of Wetland Sediments in Costa Rica." A poster presented at the annual meeting of the Southeaster Division of the American Association of Geographers, Starkville, MS.
- Blentlinger LR, Horn SP, Johanson EJ, Kerr MT, Cecil JA, Lane CS, Boehm MS. "Reconstructing Past Environments in Costa Rica through Analyses of Wetland Sediments." A poster presented at the Discovery Day Campus-Wide Experiential Learning Expo, The University of Tennessee, Knoxville, TN.
- Kerr MT, Tieche TE, Horn RD, Bissett TG, Anderson DG, Horn SP. "Sub-Annual Resolution Oxygen Isotope Analysis Reveals Season of Harvest in Archaeological Freshwater Mussel Shells from Middle Tennessee." A paper presented at the annual meeting of the American Association of Geographers, Boston, MA.
- Kerr MT, Lane CS, Horn SP. "Análisis Tipo Compuesto-Específico de los Isótopos Estables del Hidrógeno (δD) de Núcleos de Sedimento Lacustres: un Método Clave para Reconstruir Sequías Prehistóricas y sus Efectos" [Compound-Specific Stable Hydrogen Isotope (δD) Analysis of Lake-Sediment Cores: a Key Method for Reconstructing Prehistoric Droughts and Effects]. A paper presented at the XI Congreso de la Red Centroamericana de Antropología, San José, Costa Rica.
- Horn SP, Lane CS, Johanson EN, Sánchez M, Taylor ZP, Kerr MT. "Isótopos de Carbono Estables en los Sedimentos Lacustres en Costa Rica como Indicador de la Deforestación y el Cultivo" [Stable Carbon Isotope Ratios in Costa Rican Lake Sediments as a Proxy for Forest Clearance and Crop Cultivation]. A paper presented at the XI Congreso de la Red Centroamericana de Antropología, San José, Costa Rica.
- 2016 Kerr MT, Reber EA. "Investigating Prehistoric Pottery to Reconstruct Diets: Do Natural Geolipids in Clays Survive Firing to Affect Interpretations?" A poster presented at the annual meeting of the Southeaster Division of the American Association of Geographers, Columbia, SC.
- Kerr MT, Horn SP, Lane CS. "Precipitation Variability over the Past 2500 Years at Laguna Bonillita, Costa Rica." A paper presented at the annual meeting of the American Association of Geographers, San Francisco, CA.
- Horn SP., Sánchez M, Lane CS, Taylor ZP, Kerr MT, Johanson EN, Cecil JA. "Late Holocene Fires in Costa Rica: Patterns and Drivers." A paper presented at the annual meeting of the American Association of Geographers, San Francisco, CA.
- Kerr MT. "The State of Paleoindian Research in Costa Rica." A paper presented at GeoSym 2016, the biennial UT Geography and Sustainability research symposium, Knoxville, TN.
- 2015 Kerr MT, Bissett TG, Horn SP, Lane CS, Anderson DG. "Archaeological Freshwater Mussel Shells as a Paleoclimate Proxy in Middle Tennessee: Potentials and Limitations." A poster presented at the annual meeting of the Association of American Geographers, Chicago, IL.
- 2014 Lane CS, Horn SP, Kerr MT. "Compound-Specific Hydrogen Isotope Evidence of the Terminal Classic Drought from Hispaniola and Potential Impacts on Caribbean Societies." A poster presented at the annual meeting of the Geological Society of America, Vancouver, BC, Canada.
- Kerr MT, Grissino-Mayer HD, Horn SP, Stachowiac LA. "Tropical Dendrochronology: Growth Zones in a Páramo Shrub as an Indicator of Fire History." A paper presented at the annual meeting of the Southeastern Division of the Association of American Geographers, Athens, GA.

Kerr MT, Lane CS, Horn SP. “Stable Isotope Analysis of Land-Use History at Laguna Santa Elena, Costa Rica.” A paper presented at the annual meeting of the Association of American Geographers, Tampa, FL.

Kerr MT, Horn SP, Lane CS. “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.” A paper presented at GeoSym 2014, the biennial UT Geography and Sustainability research symposium, Knoxville, TN.

Bleakney SA, Kerr MT, Horn SP, Lane CS. “Stable Isotopic Signatures in Charcoal from a Costa Rican Sediment Core.” A poster presented at GeoSym 2014: the biennial UT Geography and Sustainability research symposium, Knoxville, TN.

- 2013 Lane CS, Horn SP, Kerr M, Orvis KH. “Compound-Specific Hydrogen Isotope Evidence of Late-Quaternary Paleohydrology in the Highlands of Costa Rica.” A paper presented at the annual meeting of the Association of American Geographers, Los Angeles, CA.

- 2012 Kerr MT, Reber EA, Beaman TE Jr. “Investigating Patterns of Regional Continuity and Variation in Absorbed Pottery Residues from Two Assemblages of Carolina Colonoware.” A paper presented at the Archaeological Sciences of the Americas Symposium, Nashville, TN.

Kerr MT, Reber EA. “The Brunswick Town – Fort Anderson Project: A Baseline Analysis of Absorbed Pottery Residues from 31BW376**12.” A Paper presented at the annual meeting of the Society for American Archaeology, Memphis, TN.

Kerr MT, Temple DH. “Interpreting Sex Differences in Dental Caries among Prehistoric Late/Final Jomon Period People from Japan: Regional Perspectives on Dietary Variation and Reproductive Ecology.” A paper presented at the annual meeting of the American Association of Physical Anthropologists, Portland, OR.

- 2011 Reber EA, Kerr MT. “Diagenesis and Soil-Sherd Interactions in Experimentally Produced Black Drink Residues.” A paper presented at the annual meeting of the Society for American Archaeology, Sacramento, CA.

Professional Meeting Sessions Organized

- 2024 Environmental Change 1: Ancient Maya Landscapes and Environments. A virtual paper session organized for the annual meeting of the American Association of Geographers, Honolulu, HI.

Environmental Change 2: Trees and Forest History in the Southeastern U.S. A virtual paper session organized for the annual meeting of the American Association of Geographers, Honolulu, HI.

Environmental Change 3: Evidence from Lake and Wetland Sediments. A virtual paper session organized for the annual meeting of the American Association of Geographers, Honolulu, HI.

- 2023 Environmental History from Lake Sediments and Other Natural Archives. A virtual paper session organized for the annual meeting of the American Association of Geographers, Denver, CO.

- 2022 Changing North America: Sediment Records of Past Climate, Human Activity, Vegetation, and Fire. A paper session organized for the annual meeting of the American Association of Geographers, New York, NY. (changed to a fully online meeting).

- 2020 New Records of Paleoenvironmental Change, Sessions I-IV. A series of paper sessions organized for the annual meeting of the American Association of Geographers, Denver, CO. (meeting cancelled due to COVID-19).
- 2019 New Records of Paleoenvironmental Change, Sessions I-IV. A series of paper sessions organized for the annual meeting of the American Association of Geographers, Washington, DC.
- 2018 Paleoenvironments of the Southeastern U.S. and Circum-Caribbean. A special paper session organized for the annual meeting of the Southeastern Division of the American Association of Geographers, Johnson City, TN.
- Novel Paleorecords of Environmental Change, Sessions I–V. A series of paper sessions organized for the annual meeting of the American Association of Geographers, New Orleans, LA.
- Biogeography and Paleoclimates. A paper session organized for GeoSym 2018, the biennial UT Geography and Sustainability research symposium, Knoxville, TN.
- 2017 Graduate Student Health and Wellbeing: A Frank Discussion, Sessions I–III. A series of panel discussions organized for the annual meeting of the American Association of Geographers, Boston, MA.
- New Records of Paleoenvironmental Change, Sessions I–V. A series of paper sessions organized for the annual meeting of the American Association of Geographers, Boston, MA.
- 2016 When Graduate Students Teach: Tips and Strategies to Help You Succeed. A panel discussion organized for the annual meeting of the Southeast Division of the American Association of Geographers, Columbia, SC.
- New Records of Paleoenvironmental Change, Sessions I–II. A series of paper sessions organized for the annual meeting of the American Association of Geographers, San Francisco, CA.
- Archaeology. A paper session organized for GeoSym 2016, the biennial UT Geography and Sustainability research symposium, Knoxville, TN.
- 2013 Involving Undergraduates in Field and Laboratory Research in Geography. A panel discussion organized for the annual meeting of the Southeastern Division of the Association of American Geographers, Roanoke, VA.

Invited Presentations

- 2024 Kerr MT. “Climate Change: Resilience and Human Fragility.” University of Tennessee Zero|Spec Workshop Series, Knoxville TN.
- 2013 Kerr MT, Horn SP. “Aplicaciones del Análisis de Residuos de Cerámica para Reconstruir la Dieta y el Comercio” [Applications of Pottery Residue Analysis for Reconstructing Diet and Trade]. Escuela de Antropología, Universidad de Costa Rica.
- Kerr MT, Bissett TG. “Archaeological Freshwater Shell Middens: A Source of Paleoclimate Signals or Just Yesterday’s Fish?” University of Tennessee Initiative for Quaternary Paleoclimate Research Seminar Series, Knoxville, TN.

Honors and Awards

- 2019 UT Geography Exceptional Professional Accomplishment Award
- 2018 UT Extraordinary Professional Promise Award

- UT Geography Publication Leadership Award
- 2017 UT Geography Student Publication Award
- 2016 UT Geography Outstanding Graduate Teaching Associate Award
UT Geography Extraordinary Service to the Department Award
- 2015 AAG Paleoenvironmental Change Outstanding Poster Presentation Award
UT Geography Student Publication Award
- 2014 Gamma Theta Upsilon Excellence in Geography Award
UT Geography Outstanding Graduate Teaching Assistant Award
UT Geography Extraordinary Service to the Department Award
UT Geography Student Publication Award
- 2012 National Collegiate Honors Council Portz Scholar, UNC-Wilmington Nominee
Jenkins Distinguished Achievement Award, Lambda Alpha Honor Society
James C. Sabella Academic Excellence Award, UNC-Wilmington

Workshops and Professional Development

- 2024 Dendrochronology Field School (Dendroarchaeology Group), Mountain Lake Biological Station, Pembroke, VA.
- 2023 Jumpstart Online Course Design and Development Program, University of Tennessee Online Learning and Academic Programs
- 2022 Online Teaching and Learning Certificate Program, University of Tennessee Online Learning and Academic Programs
Biosafety Principles and Bloodborne Pathogens Training, University of Tennessee Environmental Health and Safety Biosafety Program
- 2020 First Year Course Academy, University of Tennessee Online Learning and Academic Programs
- 2013 Chironomids in Paleoclimate Research. A workshop led by David Porinchu, Department of Geography, University of Georgia.

Current Research Interests

- Stakeholder-driven research and community partnerships.
- Tree-ring science and landscape reconstruction.
- Quaternary paleoenvironments and paleoclimate reconstruction.
- Prehistoric human-environment interactions.
- Circum-Caribbean paleoenvironments and archaeology.
- Compound-specific stable isotope biogeochemistry.
- Archaeological geochemistry.
- Prehistoric and historic land use and resource exploitation.
- Rise, fall, and regeneration of complex civilizations.

Professional Service

- 2021– AAG Paleoenvironmental Change Specialty Group Secretary-Treasurer
- 2017– UT Department of Geography Chemical Hygiene Safety Officer
- 2017–2018 UT College of Arts and Sciences Graduate Career Planning Task Force

2016–2018	UT College of Arts and Sciences Dean’s Graduate Student Advisory Council
2016–2017	Board of Directors, AAG Paleoenvironmental Change Specialty Group
2015–2016	UT Graduate Student Senator, Department of Geography
2014–2016	Advisor to GeoSym16: The UT Geography and Sustainability Research Symposium
2013–2016	Co-organizer, UT Initiative for Quaternary Paleoclimate Research Seminar Series
2015	Conference volunteer, AAG Annual Meeting, Chicago, IL.
2014–2015	UT Department of Geography Graduate Program Committee Member
2012–2014	Co-chair of the Steering Committee, GeoSym14: UT Geography Research Symposium
2012–2013	UT Geography, Stewart K. McCroskey Memorial Fund Oversight Committee
2011–2012	Treasurer, UNCW Historical Society

Advising and Mentoring

2024–	Mason McVey	MS Committee Member (chair: Sally Horn)
	Abby Vanlandingham	GEOG 494: Undergraduate Research Experience
2023	Madlen Conley	GEOG 493: Independent Study
		GEOG 497: Honors Senior Thesis
		GEOG 498: Honors Senior Thesis
2022	Madlen Conley	GEOG 494: Undergraduate Research Experience
	Madison Louis	GEOG 494: Undergraduate Research Experience
	Autumn Jones	GEOG 506: Directed Readings
2021–2022	Jared Crain	MS Committee Member (chair: Sally Horn)
2021	Anna Franklin	Co-Advisor, Chancellor’s Honors Thesis (w/Kelsey Ellis)
2020	Anna Franklin	GEOG 493: Independent Study
	Leah Coffey	GEOG 506: Directed Readings
2019–2020	MonTré Hudson	MS Committee Member (changed advisors and projects)

Mentoring as a Graduate Student

2018	Luke Blentlinger	NSF Grant #1660185 (w/Sally Horn)
	Morgan Steckler	NSF Grant #1660185 (w/Sally Horn)
2017	Luke Blentlinger	GEOG 494: Undergraduate Research Experience
	Trell Stroud	GEOG 494: Undergraduate Research Experience CHEM 300: Introductory Research in Chemistry
2016	Luke Blentlinger	GEOG 494: Undergraduate Research Experience
	Taylor Tieche	GEOG 493: Independent Research (SP16 and SU16)
	Jonathan Unger	GEOG 494: Undergraduate Research Experience
2015	Taylor Tieche	GEOG 494: Undergraduate Research Experience
	Justin Grabowski	GEOG 494: Undergraduate Research Experience
	Leslie Muller	GEOG 494: Undergraduate Research Experience
2014	Damani Driver	GEOG 494: Undergraduate Research Experience

	Sarah Bleakney	UT-IQPR Undergraduate Research Assistantship
2013	Paul Lemieux	GEOG 494: Undergraduate Research Experience
	Sarah Bleakney	GEOG 493: Independent Research
		GEOG 494: Undergraduate Research Experience

Professional Affiliations

- American Association of Geographers
- Association for Tropical Biology and Conservation
- Society for American Archaeology
- Southeastern Division of the American Association of Geographers
- Gamma Theta Upsilon International Geographic Honor Society
- Lambda Alpha National Anthropology Honor Society
- Phi Alpha Theta National History Honor Society
- Phi Kappa Phi Honor Society