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Senior Geoarchaeologist and Founder

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Integrating Geoarchaeological Tools into Phase I, II, and III: Landscape Reconstruction – Site Predictive Modeling Coring – Deep Testing – Formation Processes for Site Evaluation Micromorphology – Paleoenvironmental Reconstruction

Heidi Luchsinger, PhD, RPA, PG, has over 25 years of experience in archaeological, geoarchaeological, and micromorphological analysis on both site-specific and regional projects in the US and internationally. She received a *Fulbright Fellowship*, a *National Science Foundation* grant, a research grant from the *Geological Society of America*, and was recognized by the *Society for American Archaeology* as winner of the *Douglas C. Kellogg Fellowship for Geoarchaeological Research* for her work in the middle Río Negro Valley (Northern Patagonia, Argentina). Currently, she teaches in the Department of Anthropology at East Carolina University and works as a consulting geoarchaeologist with Precision Geoarchaeology, Inc. (PrecisionGeoarch.com).

Dr. Luchsinger's research focuses on site prediction especially with defining the boundaries for initial human occupation in the New World, the impact of landscape change on settlement patterns through Late Pleistocene-Holocene landscape reconstruction, evaluation of site integrity through stratigraphic and sediment analysis on the microscale and correlating local prehistoric environmental conditions with regional and global trends. Specializing in the reconstruction of the archaeological site context within river valleys, her regional experience includes Texas (Gault Clovis Site), North Carolina, South Carolina, Virginia, Minnesota, Puerto Rico, Greece, Turkey, and Argentina. Dr. Luchsinger also conducts physical and chemical analysis of sediments, lithic artifact sourcing, and ceramic petrography. Her geoarchaeological research has been presented at various international conferences in North America and Argentina and published in *Geoarchaeology*, *Quaternary International*, *Current Research in the Pleistocene*, *Encyclopedia of Archaeology* (D. Pearsall, Editor), and *Intersecciones en Antropología* (Argentina). In addition, she has published book chapters in Waters, M. R., Pevny, C. D., Carlson, D. L., Dickens, W. A., & Smallwood, A. M. (2009) *A Clovis Workshop in Central Texas: Archaeological Investigations of Excavation Area 8 at the Gault Site* and two books published in Argentina. She has reviewed grant proposals for the *National Science Foundation* and *National Geographic*. Her academic training includes geoarchaeology (Dr. Michael Waters, Director of the *Center for the Study of the First Americas* at Texas A&M,) archaeology (Dr. Robson Bonnichsen, Texas A&M), micromorphology (Dr. Paul Goldberg, Boston University), fluvial geomorphology (Dr. Anne Chin, University of Colorado Denver), pedology (Dr. Tom Hallmark, Texas A&M), and ceramic petrography and fabric analysis (Dr. Tom Tartaron at M.I.T.'s *Center for Material Research in Archaeology and Ethnology*).

Education

Ph.D. Anthropology (2006) Texas A&M University

The Late Quaternary Landscape History of the Middle Río Negro Valley, Northern Patagonia, Argentina: Its Impact on Preservation of the Archaeological Record and Influence on Late Holocene Human Settlement Patterns (Advisor: Michael Waters).

M.A. Anthropology (2002) Texas A&M University

Micromorphological Analysis of the Sediments and Soils from the Gault Site, A Clovis Site in Central Texas (Advisor: Michael Waters).

Specializations

Landscape Reconstruction (Phase I, II, III)

Reconstruct Pleistocene-Holocene landscape history and paleoenvironment.
Determine relative and absolute age of landforms.

Testing and Site Evaluation (Phase I, II)

Deep testing, core-based testing, regional stratigraphy, evaluation of site preservation based on depositional environments and post-depositional processes.

Predictive Modeling (Phase I)

Determine landforms that potentially contain sites with integrity based on site formation processes reconstructed from testing and landscape analysis.

Micromorphology (Phase I, II, III)

Microstratigraphy, determine vertical and horizontal site boundaries, evaluate site preservation, define regional paleosols.

Detect microscopic archaeological evidence: microdebitage, charcoal, bone, shell, wood.

Sourcing of lithic artifacts and pottery based on fabric analysis and petrography.

CRM Reports

Luchsinger, H. (2021, Draft Report submitted). Geoarchaeological Investigations of Eight Test Units Along Florida's Cody Escarpment Sand Sheet for the Cultural Resources Support for Gulf Power NTL, Phase II Evaluation Transmission Corridor Project, Leon and Jefferson Counties, Florida. SEARCH Inc. and Gulf Power NTL.

Schuldenrein, J. and Luchsinger, H. (2021). Results of Geoarchaeological Investigations, Phase I Subsurface Testing, City of Columbia Canal, SC, V2. Michael Baker International.

Schuldenrein, J., Luchsinger, H., Wiley, K., and Dean, S. (2021). Geoarchaeological Investigation as part of Cultural Resource Investigations and Mitigation at the Smith Mountain Hydroelectric Project, Bedford, Franklin, and Pittsylvania Counties, Virginia. Terracon Consultants Inc.

- Luchsinger, H. (2021). Micromorphological Analysis of Sediments from Phase I Deep Test Units for the Cultural Resource Survey of the Río Nigua Flood Control Project, Salinas Municipality, Puerto Rico. SEARCH, Inc. and U.S. Army Corps of Engineers.
- Luchsinger, H. (2021). Micromorphological Analysis of Deep Testing for Phase II Archaeological Assessment of DD0100042, Río de la Plata, Dorado Municipality, Puerto Rico. SEARCH, Inc. and U.S. Army Corps of Engineers.
- Luchsinger, H. (2020). Geoarchaeological Investigations of the Lower Río de la Plata Valley and Micromorphological Analysis of Sediments from the Las Cotorras Site (Phase III Data Recovery Excavation of the Las Cotorras Archaeological Site, D-18, Río de la Plata Flood Damage Reduction Project, Dorado, Puerto Rico). SEARCH, Inc. and U.S. Army Corps of Engineers.
- Luchsinger, H. M., Bailey, T., Lautzenheiser, L., & Hall, B. (2006). Archaeological Survey of the Proposed North Corridor Commuter Rail Project (NCCR), Charlotte Area Transit System, Charlotte, North Carolina.
- Luchsinger, H. M., Bamann, S., Hall, B., Scholl, M., & Lautzenheiser, L. (2006). Archaeological Survey of Proposed Land Application Tracts, Onslow County, North Carolina.
- Lautzenheiser, L., Hall, B., Luchsinger, H., & Bradley, D. (2006). Archaeological Survey and Evaluation, Replacement of Bridge 415 on SR 2873 (Riverside Road) Over Fork Creek, Randolph County, North Carolina.
- Luchsinger, H. M., Lautzenheiser, L., & Hall, B. (2006). Archaeological Survey for the Tri- County Parkway Location Study, Loudoun and Prince Williams Counties, Virginia.
- Luchsinger, H. M., & Lautzenheiser, L. (2006). Report on Archaeological Data Recovery, Bridge No. 129 on SR 1565 over the Tar River, Grimesland, Pitt County, North Carolina.
- Luchsinger, H. M., Hall, B., & Lautzenheiser, L. (2006). Cultural Resources Survey, Proposed Connector of Pacific Boulevard, Loudoun County, Virginia.

Publications

- Gutierrez, M., Martinez, G., Luchsinger, H. M., Grill, S., & Zucol, A. (2011). Paleoenvironments in the Paso Otero locality during Late Pleistocene - Holocene (Pampean region, Argentina): An interdisciplinary approach. *Quaternary International*, 245:1, 37-47.
- (Contributing author) Waters, M. R., Pevny, C. D., Carlson, (2011). *Clovis Lithic Technology: Investigation of a Stratified Workshop at the Gault Site, Texas*, Texas A&M University Press.
- Prates, L., Luchsinger, H. M., Scabuzzo, C., & Mansegosa, D. (2011). Investigaciones Arqueológicas en el Sitio La Victoria 5 (Departamento de Pichi Mahuida, Río Negro). *Intersecciones En Antropología*, 12, 109–120.
- Luchsinger, H. M., & Prates, L. (2010). Evolucion del paisaje en el valle medio del río Negro e el impacto potencial en la preservacion del registro arqueologico y patrones de ocupacion: interpretaciones arqueologicas y geoarqueologicos preliminares (Landscape Change in the Middle Río Negro Val. In *Diez años de Arqueologia Pampeana*. Olavarria, Argentina: INCUAPA.

- Gutierrez, M. A., Martinez, G. A., Luchsinger, H. M., & Barros, M. (2010). Investigaciones arqueológicas y geoarqueológicas preliminares en el sitio Paso Otero 4 (Partido de Necochea). In *Mamul Mapas: pasado y presente desde la arqueología pampeana, En Mamul Mapas: pasado y presente desde la arqueología pampeana*. Ayacucho: Editorial Libros del Espinillo.
- Maria, G., Gustavo, M., Luchsinger, H. M., & Barros, P. (2009). Investigaciones arqueológicas y geoarqueológicas preliminares en el sitio Paso Otero 4 (partido de Necochea). *Del V Congreso de Arqueología de La Región Pampeana Argentina*.
- Luchsinger, H. M. (2009). Review of "Snails: Archaeology and Landscape Change" by P. Davies. *Geoarchaeology*, 24:6, 851-858.
- Luchsinger, H. M. (2008). Geoarchaeology. In *Encyclopedia of Archaeology*, ed. Deborah Pearsall. New York: Academic Press: 1409-1414.
- Luchsinger, H. M., & Prates, L. (2007). Geological Context of the Archaeological Record from the Late Pleistocene through Holocene in the Middle Río Negro Valley, Argentina. *Current Research in the Pleistocene*, 24, 62–64.
- Prates, L., & Luchsinger, H. M. (2005). The Potential Impact of the Río Negro Valley on the Late Pleistocene Peopling of Patagonia. *Current Research in the Pleistocene*, 22, 31–33.
- Luchsinger, H. M. (2003). Paleoenvironment Under the Microscope: Sediment Micromorphological Analysis at the Gault Site, a Paleoamerican Site in Central Texas. *Current Research in the Pleistocene*, 20, 126–128.
- Luchsinger, H. and P. Goldberg, (2003). Micromorphological analysis of sediment at Pavo Real, in M.B. Collins, D.B. Hudler, and S.L. Black (eds.), Pavo Real (41BX52): A Paleoindian and Archaic Camp and Workshop on the Balcones Escarpment, South-Central Texas. Texas Archeological Research Laboratory, The University of Texas at Austin, Studies in Archeology, no. 41, pp. 61-69.

Research Awards

- Dissertation Winner of the Douglas C. Kellogg Fellowship for Geoarchaeological Research, Society for American Archaeology (2006)
- Fulbright Fellowship to Argentina (2004)
- National Science Foundation Doctoral Dissertation Improvement Grant (2004)
- Research Grant from the Geological Society of America (2004)
- Sigma Xi Grant in Aid of Research (2004)
- Academic Excellence Award, Texas A&M University (2002)
- Graduate Scholarship, Texas A&M University Women's Faculty Network (2001)
- J. W. Van Dyke Memorial Scholarship, Texas A&M University (2001)
- Zimmermann Scholarship, Swiss Benevolent Society (2001)
- Claude C. Albritton, Jr. Memorial Student Research Award, Archaeological Geology Division (2001)

Teaching Awards

Thomas Harriot College of Arts and Sciences Fixed-Term Faculty Excellence in Teaching Award (2020)

Honored Instructor Award, Campus Living and the Residence Hall Association (2019)

Rosina Chia Award for Excellence in Teaching, Global Partners in Education (2016)

Nominated for the Max Ray Joyner Award for Faculty Service through Continuing Education (2011)

Memberships

Society for American Archaeology (SAA)

Register of Professional Archaeologists (RPA)

American Cultural Resources Association (ACRA)

Geological Society of America (GSA)

American Institute of Professional Geologists (AIPG)

Fulbright Alumni Association