



**North Carolina
Archaeological Society**

N e w s l e t t e r

WINTER 2016, Volume 26, Number 1

Research Laboratories of Archaeology, Campus Box 3120, University of North Carolina, Chapel Hill NC 2759-3120

<http://www.rla.unc.edu/ncas>

2016 SPRING MEETING

April 23, 2016

Cherokee Area Bus Tour

Guided by Dr. Jane Eastman, Dr. Brett Riggs, and Dr. Ben Steere

Join the North Carolina Archaeological Society for a guided bus tour of archaeological sites in the Cherokee area. We'll start on the campus of Western Carolina University (WCU), where our guides will show us Cullowhee Mound and describe the archaeological work that has occurred on campus. From there we'll board a chartered bus and head to Judaculla Rock and other nearby petroglyphs. We'll also visit archaeological sites along the Tuckasegee River corridor, the Cherokee Tribal Historical Preservation Office, and Kituwah Mound. Participants staying in the area on Saturday evening may wish to tour the Museum of the Cherokee Indian on Sunday on their own (<http://www.cherokeemuseum.org/>).

Schedule of Events

9:00-10:00 AM	Coffee and Pastries
9:00 AM	NCAS Board of Directors meeting
10:00 AM	Tour begins at Cullowhee Mound on the WCU campus
5:00 PM	Tour returns to WCU campus

Tour Guides

Dr. Jane Eastman is Associate Professor of Anthropology and Director of the Cherokee Studies Program at Western Carolina University. Dr. Eastman earned her bachelor's, master's, and doctorate degrees in anthropology from the University of North Carolina at Chapel Hill. In addition to nearly 20 years of experience working in Cherokee archaeology, she has served as President of the North Carolina Chapter of the Trail of Tears Association and is actively involved in efforts to preserve and revitalize the Cherokee language.

Dr. Brett Riggs is the Sequoyah Distinguished Professor of Cherokee Studies at Western Carolina University. Dr. Riggs earned his B.A. in anthropology from Wake Forest University and holds master's and doctorate degrees in anthropology from the University of Tennessee. He has more than 20 years of experience working with the Eastern Band of Cherokee Indians in western North Carolina. Dr. Riggs has been instrumental in establishing the National Historic Trail of Tears Long-Distance Trail in southwestern North Carolina and coauthored the Cherokee Heritage Trails Guidebook with Barbara R. Duncan in 2003.

Dr. Ben Steere is an Assistant Professor of Anthropology at Western Carolina University. Dr. Steere earned his B.A. in anthropology at Wake Forest and holds a Ph.D. in anthropology from the University of Georgia. He has worked on collaborative archaeological research and preservation projects with the Tribal Historic Preservation Office of the Eastern Band of Cherokee Indians since 2011.

Reservations

The NCAS is subsidizing the cost of the tour, allowing us to offer it for only \$5 for NCAS members (and their guests). The cost for non-members is \$20, which includes the tour plus a 2016 regular NCAS membership. Subway boxed lunches are available for an additional charge (see insert). We recommend that participants wear tennis shoes and bring a water bottle, folding chair, and rain gear.

Because space is limited, reservations are accepted on a first-come, first-served basis. Please complete the enclosed registration form and return it by mail or email to Theresa McReynolds Shebalin, 3116 Academy Rd., Durham, NC 27707; theresa.shebalin@da.org; 919-749-5212).

Directions to Western Carolina University (1 University Drive, Cullowhee, NC 28723)

Details about parking and the tour meeting spot will be sent when registration is confirmed.

From Asheville, NC, and points east: Follow I-40 West to Exit 27 (Highway 74 West). Follow Highway 74 West to Exit 85 in Sylva. At third light turn left onto Highway 107 South. Follow Highway 107 South for approximately 5.15 miles to campus.

From Knoxville, TN, and points west: From I-40 East, take Exit 27 to Highway 74 West. Follow Highway 74 to Exit 85 in Sylva. At third light turn left onto Highway 107 South. Follow Highway 107 South for approximately 5.15 miles to campus.

From Charlotte, NC: From I-85 South, exit onto Highway 74 West towards Shelby. Follow Highway 74 West to I-26 West to Asheville. In Asheville, exit left onto I-40 West. Follow directions above from Asheville.

Hotels/Motels

Comfort Inn (approximately 3.5 miles from WCU)
1235 E. Main Street, Sylva, NC, 28779 (phone: 828-477-4950)

Best Western Plus River Escape Inn and Suites (approximately 9 miles from WCU)
248 WBI Drive, Dillsboro, North Carolina, 28725 (phone: 828-586-6060)

Microtel Inn & Suites by Wyndham Sylva Dillsboro Area (approximately 9 miles from WCU)
89 Rufus Robinson Rd., Sylva, NC 28779 (phone: 828-586-0009)

Baymont Inn & Suites Cherokee Smoky Mountains (approximately 23 miles from WCU)
1455 Acquoni Road, Cherokee, NC 28719 (phone: 828-497-2102)

Hampton Inn Cherokee (approximately 23 miles from WCU)
185 Tsalagi Road, Cherokee, NC 28719 (phone: 828-497-3115)

Public Event

Exploring North Carolina's Archaeological Heritage Through Remote Sensing and Geophysics

**North Carolina Museum of History, Raleigh, North Carolina
March 12, 2016**

The North Carolina Office of State Archaeology, in association with the North Carolina Museum of History and the United States Forest Service, is hosting a public presentation to discuss the application and relevance of using Remote Sensing to explore North Carolina's buried history. The last several years have witnessed an increase in the use of geophysical remote sensing as "non-invasive" methods to recover data that in the past were unavailable to archaeologists. The presentations will discuss how the application of ground penetrating radar (GPR), magnetometers, and metal detectors are used to locate and map subsurface natural and cultural features. Several archaeological sites in North Carolina are discussed in detail using information obtained from the application of these methodologies. These methods and techniques represent a new frontier in archaeological research.

The presentation will be held at the North Carolina Museum of History from 9:00 am-2:00 pm. Admission is free and open to the public.

For e-mail notification of updates, or with any questions, please contact John J. Mintz at 919-807-6555 or john.mintz@ncdcr.gov, with the North Carolina Office of State Archaeology.

Schedule

9:00-9:10am

Welcome and Introductions - John J. Mintz, Lea Abbott (North Carolina Office of State Archaeology), and Shawn Patch, (New South Associates, Inc.).

9:10-9:35am

The Role of GPR in Archaeology: A Beginning Not an End - Charles Ewen, Department of Anthropology, East Carolina University.

The general public, via such television programs as CSI and Bones, think they know all about the amazing detecting capabilities of ground-penetrating radar (GPR). However, real archaeologists know better. Or do they? GPR is the first step in

reconnaissance archaeology and requires follow up ground-truthing. This paper examines the use and effectiveness of GPR as employed by East Carolina University archaeologists.

9:35-10:00am

3D Remote Sensing and Modeling of the House in the Horseshoe State Historic Site - Stacey Curry and Doug Gallaway, Department of Geography, UNC-Greensboro.

The House in The Horseshoe (Alston House), located in Sanford NC, is an 18th century property with a complex history of land use. This site was the scene of much smaller skirmish between North Carolinians loyal to the British crown and those in favor of independence.

Using digital camera photogrammetric methods to capture the Alston House at the House in the Horseshoe State Historic Site, a point cloud was generated used to model the house and surroundings. The House in the Horseshoe provides an opportunity to test the hypothesis that using SLR digital camera to capture multiple photos of the Alston House can provide an accurate point cloud. In order to test this, multiple photos have to be taken of the house from multiple angles. Through applying photogrammetric principles using target or control points located throughout the photos to create the point cloud, the resulting cloud can then be tested against total station survey points and an accuracy assessment executed. This method provides not only accuracy assessment, but a comprehensive point cloud of structure.

A comprehensive evaluation of various modeling and point cloud generation tools is also presented. Such software tools include, SFM, Photoscan, CloudCompare, and Autodesk 123D Catch. A concluding discussion of the next steps and hints to data fusion with other remotely sensed datasets are included in the paper.

10:00-10:05am BREAK

10:05-10:30am

Geophysical Investigations of Prehistoric and Historic Sites in North Carolina - Jacob Turner and Ari Lukas, Department of Geology, UNC-Greensboro.

This presentation reviews the results of two geophysical surveys. The first was conducted by UNCG in conjunction with TRC Environmental for NC DOT as a part of data recovery efforts (Middle to Late Qualla) at McCoy Bridge in Macon County. The second series of surveys were at House in the Horseshoe, a state managed historic site associated with the American Revolution in Moore County. These works provided a wealth of interpretive challenges that are common to geophysical surveys, the opportunity to image different types of features that are likely to appear on historic and prehistoric sites within Ground Penetrating Radar (GPR), magnetic gradiometer, conductivity and magnetic susceptibility survey maps. These projects also provided opportunities for collaboration between UNCG and the State Office of Archaeology, North Carolina Historic Sites Division, and a private CRM firm, TRC Environmental.

10:30-10:55am

Greater than the Sum of its Parts: Archaeological Geophysics and Ground-Truthing in Western North Carolina - Alice P. Wright and Tim Horsely, Department of Anthropology, Appalachian State University.

Over the past several decades, archaeological research across western North Carolina has revealed deep and dynamic Native American histories. In particular, large-scale excavations associated with the University of North Carolina's Cherokee Project as well as more recent cultural resource management projects have produced a baseline archaeological understanding of ancestral Cherokee lifeways in the Appalachian Summit. The application of geophysical methods to the archaeological record of western North Carolina stands to dramatically improve this understanding. In this talk, we show how a combination of traditional archaeological field methods and multiple geophysical prospection techniques are "greater than the sum of their parts," enabling us to ask and answer new questions about well-known sites while preserving vast portions of the archaeological record for future generations. Recent findings from the 2000-year-old Garden Creek site in Haywood County demonstrate the potential of these complementary techniques, and highlight the desirability of collaboration between archaeological geophysicists and excavators.

10:55-11:20am

Integrating Archaeological Geophysics into Cultural Resource Management: Potentials, Pitfalls, and Best Practices - Tim Horsley, Horsley Archaeological Prospection, LLC; Department of Anthropology, Northern Illinois University.

As their full potential in both commercial and research-driven archaeological investigations is being recognized, geophysical methods are at last finding a foothold in North American archaeology. When applied appropriately, these techniques can dramatically enhance our understanding and interpretations of archaeological sites; however, as they become more commonly requested on commercial projects, this raises a number of important questions: (i) what techniques and methodologies are "appropriate" for a given site?; (ii) who defines the methodology for a project (the State Archaeologist/State Historic Preservation Officer, the client, the archaeological geophysicist, or someone else?); and (iii), how are the results reviewed, if at all? This paper will present results from North Carolina and beyond that illustrate some of the different ways these techniques can be used to improve how we do archaeology more effectively and efficiently.

11:20am -12:00pm LUNCH

12:00-12:25pm

Geophysical Applications in North Carolina Cemeteries - Sara Lowry, New South Associates Inc.

This presentation will include case studies from several cemeteries in North Carolina. Emphasis is on common issues such as identifying unmarked graves and defining boundaries in a non-invasive manner.

12:25-12:50pm

Metal Detecting: The Down-to-Earth Tool of Remote Sensing - Linda Stine, Department of Anthropology, UNC-Greensboro.

UNCG archaeological research at the Troublesome Creek Ironworks and Guilford Courthouse national Military Park was enhanced through collaboration with a local metal detecting group. Metal detecting machines have been used to define site boundaries or military features at some historic sites since at least the mid-20th century. Though easy to initially learn, they are difficult to master. Four threads of discussion circulated in the past few years in historical archaeology about the use of this form of remote sensing: archaeologists should aspire to master the

machines through RPA sanctioned workshops; archaeologists should teach one another the art and science of archaeology and detecting; archaeologists should teach themselves how to use the machine; or, that no archaeologists should have to use a metal detector in the 21st century. These debates affect potential future guidelines for academic and CRM-driven archaeology in the state and region.

12:50-1:00pm BREAK

1:00- 1:25pm

Geophysical Survey of Large Mississippian Villages - Shawn Patch New South Associates Inc.

This presentation will discuss the geophysical survey results from several large, complex Mississippian village sites in East Tennessee. It will focus on how these methods can be used to identify internal site structure and feature patterning, as well as provide primary data to assist with National Register of Historic Places evaluations.

1:30-2:00pm

Discussion - Roy Stine, Department of Geography, UNC-Greensboro.

NCAS Business Office Moves to RLA

As announced in the last Newsletter, on January 1, 2016, the business office of the North Carolina Archaeological Society transferred to the Research Laboratories of Archaeology, Campus Box 3120, University of North Carolina, Chapel Hill, NC 27599-3120. Please direct all correspondence regarding the Society to Lisa-Jean Michienzi (michienz@email.unc.edu).

policy, approved by the NCAS board at its last meeting, replaces the previous five-year embargo. Printed copies of most issues are still available for purchase at: <http://rla.unc.edu/ncas/Publications/Order.html>.

NCAS Chapter Survey

Are you a member of an Affiliated Society or a Chapter of NCAS? Would you like to join or start a local Chapter of the NCAS? Please take a few moments to complete a short survey about NCAS Chapters to help us better implement this program.

You can find the survey at: <https://goo.gl/197NSo>.

NCAS Social Media Reminder

Looking for a way to stay up-to-date on the latest in archaeology news? Social media has become one of the most common ways to do so. Join the North Carolina Archaeological Society group on Facebook or follow @NCArchSociety on Twitter to stay current on news from North Carolina and the Southeastern US.

North Carolina Archaeology Available Online

Effectively immediately, all NCAS journals more than two years old will be freely available online. This

Projectile Point Type Collection Now Online

In 1964, the American Philosophical Society published *The Formative Cultures of the Carolina Piedmont*, by Joffre L. Coe. Based on Coe's doctoral dissertation at the University of Michigan, this important archaeological study used data from the Hardaway, Doerschuk, Lowder's Ferry, and Gaston sites to establish a cultural sequence for the region spanning nearly 10,000 years. Coe recognized through stratigraphic excavation that distinctive styles

of artifacts, most notably spear points, arrow points, and pottery, were restricted in time and could be used as “type fossils” for identifying archaeological cultures (what archaeologists today usually call phases). For the last 50 years, archaeologists and artifact collectors have used Coe’s study extensively as an important resource for identifying artifacts and placing them in their correct chronological context.

Over the last several months, staff and students at the Research Laboratories of Archaeology have used a photogrammetric method called Structure from Motion to create detailed, photorealistic 3D computer models of more than 200 artifacts, including the projectile points illustrated in *Formative Cultures*. These and many other artifacts are being modeled for use in an online exhibit currently under development.

Now, anyone can view the artifacts that Joffre Coe used to define his projectile point sequence. Just go to <http://sketchfab.com/rla-archaeology>. Artifacts are organized in folders by types.

NCAS Officers

President: Tom Beaman, 5210 Carr Road, Wilson NC 27893

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Executive Board Members: David Cranford, Eric Deetz, Shane Peterson, Jon Schleier, Alice Wright

NCAS Newsletter Publication Schedule

All NCAS members should submit articles and news items to Lisa-Jean Michienzi (michienz@email.unc.edu) for inclusion in the Newsletter. Please use the following cut-off dates as guides for your submissions:

Winter Issue – January 31

Summer Issue – July 31

Spring Issue – April 30

Fall Issue – October 31

NC ARCHAEOLOGICAL SOCIETY
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