

2023 ANNUAL WORKSHOPS IN
ARCHAEOLOGY

DISCOVERING
THE
PAST

THE SCIENCES
OF ARCHAEOLOGY

SATURDAY, OCTOBER 28, 2023
9:00 A.M. - 5:00 P.M.

300 NORTH STREET • HARRISBURG, PA 17120-0024

Visit [statemuseumpa.org/
WorkshopsInArchaeology](https://statemuseumpa.org/WorkshopsInArchaeology)
for more information



In association with:
Pennsylvania Heritage Foundation
Society for Pennsylvania Archaeology
Pennsylvania Archaeological Council

DISCOVERING THE PAST: THE SCIENCES OF ARCHAEOLOGY

Archaeology is the study of past people and cultures through objects preserved and excavated from the ground. These material remains allow archaeologists to reconstruct the activities and lifeways of people, from our earliest inhabitants to present. Archaeologists also incorporate scientific methods and rely on other disciplines to help tell a more complete story. Technical applications such as radiocarbon dating (C¹⁴), analysis of plant and animal remains, soil chemistry, geospatial data, and non-intrusive survey methods such as Ground Penetrating Radar (GPR), are just a few examples that archaeologists draw upon. In addition, refinements in scientific methods are applied to reexamine artifacts already in museum storage. Studies such as these have furthered our understanding of change over time and the adaptation and movement of people across the landscape.

This year's Workshops in Archaeology will feature experts in Geographic Information Systems (GIS), C¹⁴ dating, GPR survey, geoarchaeology, and more. Please join us as we explore how these specialized analyses are conducted and how the results enhance our understanding of the environmental and human past.

SESSION DESCRIPTIONS

8:30 A.M. – 9:10 A.M.
Registration

9:10 A.M. - 9:30 A.M.
Opening Remarks and Logistics

ANGELICA DOCOG, DIRECTOR,
THE STATE MUSEUM OF PENNSYLVANIA

PAUL NASCA, SENIOR CURATOR,
SECTION OF ARCHAEOLOGY,
THE STATE MUSEUM OF PENNSYLVANIA

SESSION 1 | 9:30 A.M. - 10:00 A.M.
Recording Archaeological Discoveries in PA-SHARE

TAYLOR NAPOLEON, M.A.
PENNSYLVANIA ARCHAEOLOGICAL
SITE SURVEY COORDINATOR,
PA STATE HISTORIC PRESERVATION OFFICE

What do you do when you discover an artifact; how do you record an archaeological site? Pennsylvania's State Historic and Archaeological Resource Exchange

(PA-SHARE) is the State Historic Preservation Office's (PA SHPO) online, spatially enabled data management and cultural resource system. PA-SHARE serves as the primary interface for all programs areas within the PA SHPO, replacing the antiquated CRGIS system, multiple internal databases, and paper-based documentation. The Pennsylvania Archaeological Site Survey program (PASS) uses PA-SHARE to record and update archaeological site information. Recording these resources is important in understanding settlement and movement by past cultures and necessary to enable preservation of cultural resources. The switch to an online process allows site information to remain as accurate as possible and for new sites and site updates to be available to view immediately after processing. This presentation will provide a brief introduction to PA-SHARE with a primary focus on the site recording process.

SESSION 2 | 10:00 A.M. - 10:30 A.M.
*Radiocarbon and Archaeometry at Penn State:
Technology Supporting the Historical Sciences*
BRENDAN J. CULLETON, PH.D.
INSTITUTES OF ENERGY AND THE ENVIRONMENT
AND DEPARTMENT OF ANTHROPOLOGY
THE PENNSYLVANIA STATE UNIVERSITY

In 2016, the Penn State Radiocarbon Lab was established to support research in archaeology, art history, biology, paleontology and paleoecology through high-precision radiocarbon or C-14 dating. The lab's 500kV Accelerator Mass Spectrometer (AMS) is expanding capabilities in spectroscopy—Fourier-transform infrared (FTIR), and X-ray Florescence (pXRF)—allowing us to identify the sources of materials in artifacts, textiles and documents in research collections. Several case studies in radiocarbon dating, FTIR and pXRF will provide an overview of the lab's developing research.

10:30 A.M. - 11:00 A.M.
Break – Auditorium Foyer, Coffee and Snacks

SESSION 3 | 11:00 A.M. - 11:30 A.M.
*Ground Penetrating Radar in
Community Based Archaeology*
HEATHER A. WHOLEY, PH.D., RPA
DEPARTMENT OF ANTHROPOLOGY AND SOCIOLOGY
WEST CHESTER UNIVERSITY

Ground Penetrating Radar (GPR) is one of several physical sensing techniques used in archaeology to produce remote imagery and maps. It can be highly useful for locating buried features (human activity areas) to preserve them in place or to supplement traditional survey methods prior to excavations. West Chester University's program has applied GPR in fieldwork done in collaboration with community groups wishing to preserve and learn about local heritage. This talk will provide examples

of community-based applications conducted through structured coursework such as archaeological field schools and internships. It will highlight how community goals are met while also providing professional development opportunities to students.

SESSION 4 | 11:30 A.M. - 12:00 P.M.

21st Century Geoarchaeology: Strategies for Exploring Ancient, Present and Future Human Landscapes

JOSEPH SCHULDENREIN, PH.D.
FOUNDER AND PRINCIPAL,
GEOARCHAEOLOGY RESEARCH ASSOCIATES

Geoarchaeology merges the fields of geology, climate, and cultural succession across ever-changing human landscapes and environments. This presentation will show how inter-disciplinary approaches mesh to expand our understanding of human practices across time and space. We begin by looking at Pennsylvania's prehistoric past through the lens of changing settlement systems across the state's diverse stream settings. We follow up by demonstrating high tech geoarchaeological methods in the Bronze Age cities of the Indus civilization, contemporary New York City, and the earliest human peopling of Ireland.

12:00 P.M. - 1:30 P.M.

Lunch on your own – see order form for bagged lunch options.

Pre-ordered lunch pick-up in Allegheny Room

SESSION 5 | 1:30 P.M. - 2:00 P.M.

Using Rockshelter Sites to Reconstruct Chronological, Cultural and Paleoecological Sequences

THOMAS K. HARPER, PH.D.
DEPARTMENT OF ANTHROPOLOGY
THE PENNSYLVANIA STATE UNIVERSITY

Due to their high potential for favorable preservation conditions, rockshelter sites often produce sensational and unusual finds of ancient organic materials, including preserved botanicals, cordage, and textiles. Beyond this, their consistent use over thousands of years means that they often contain many habitational levels with diagnostic artifacts. Using techniques such as radiocarbon dating, paleoethnobotany, and volumetric analysis of site stratigraphy, a variety of quantitative and qualitative records of site use can be generated. This talk addresses two rockshelters in particular—El Gigante Rockshelter, Honduras, and Sheep Rock Shelter, Huntingdon County, Pennsylvania—and how their analyses affects our understanding of broader archaeological topics.

SESSION 6 | 2:00 P.M. - 2:30 P.M.

A Primer on Use-Wear: Toward Further Meaning and Explanation of Prehistoric Artifacts

**JACK CRESSON, ARCHAEOLOGIST,
LITHIC TECHNOLOGIST, SPT, SEAPT/REARC, RGA, INC.**

Use-wear is a specialized analytical approach to understanding how stone artifacts were made and maintained, how they may have functioned on certain substances, and how they ultimately ended their use lives. The goals are to tease as much information from what survives on various kinds of recovered artifacts. Experimental archaeology replicates past human activities by recreating artifacts recovered from sites. Understanding the methods for manufacture and use of stone tools improves our understanding of the function of these artifacts. The presentation will include discussion on various examples of use-wear.

2:30 P.M. - 3:00 P.M.

Break – Auditorium Foyer

SESSION 7 | 3:00 P.M. - 3:30 P.M.

The Significance of Environmental Archaeology for Reconstructing Complex Human-Environment Interactions and Indigenous Landscapes of Appalachia

JOSÉ M. CAPRILES, PH.D.
DEPARTMENT OF ANTHROPOLOGY
THE PENNSYLVANIA STATE UNIVERSITY

Environmental archaeology has the goal of reconstructing complex human-environment interactions and their development over time. It encompasses various archaeological specialties—including zooarchaeology, paleoethnobotany, and geoarchaeology—and relies on the material record of culture-nature relationships to characterize past ecological and behavioral dynamics. In Pennsylvania, over 13,000 years of complex interactions between people and other organisms have structured not only the current regional ecological dynamics but also past diversity and variability. The legacy of Indigenous landscapes generated in this region over time illustrates a long history of anthropogenic processes (human influenced activities) such as vegetation transformation, complex resource management, and the introduction of various domesticates.

SESSION 8 | 3:30 P.M. - 4:00 P.M.

Archaeobotanical Evidence Supports Crop Domestication in the Mesoamerican Neotropics

ALEJANDRA I. DOMIC, PH.D.
DEPARTMENT OF ANTHROPOLOGY
AND DEPARTMENT OF GEOSCIENCES
THE PENNSYLVANIA STATE UNIVERSITY

Current knowledge on the domestication of crops is mostly based on genetic data, but archaeological evidence continues to play a major role in improving our understanding of the timing and geographical origins of domesticated plant cultivars. Using

Accelerator Mass Spectrometry (AMS) dating and morphological and morphometric analyses of well-preserved desiccated seeds and rinds dating as far back as 11,000 years ago from El Gigante, a well-documented dry rockshelter in Honduras, we demonstrate that humans consumed a diversity of plants, including several tree crops, and were involved in selective breeding for various domesticated species and varieties. Future comparative analysis of plant remains from El Gigante and Sheep Rock Shelter (36HU0001) will contribute to a better understanding of the spread of domesticated plants, such as maize and squash, into the United States.

4:00 P.M. - 4:30 P.M.

Questions and discussion

Closing Remarks - audience question and answer session with presenters

4:30 P.M. - 5:15 P.M.

Reception – Susquehanna Room, Light Snacks

ADDITIONAL PROGRAMMING

9:00 A.M. - 4:00 P.M.

Flintknapping Demonstration – Foyer to Auditorium

STEVE NISSLY

Expert flintknapper and avocational archaeologist, Steve Nissly, will demonstrate and share his knowledge of stone tool production and tool use during the Pre-Contact and Contact periods in PA.

AVAILABLE DURING BREAK TIMES

10:30 - 11:00 A.M. AND 2:30 - 3:00 P.M.

Recording of archaeological sites is an essential task in protecting and preserving our archaeological resources. Assistance in identifying artifacts and recording the archaeological sites from which they came will be provided by these qualified individuals.

Site Recording in Cultural Resources Geographic Information System PA-SHARE - Susquehanna Room

**NOEL STRATTAN, CASEY HANSON,
JUSTIN MCKEEL, KRISTEN WALCZESKY,
TAYLOR NAPOLEON, AND SARA-LADD MANLEY**
STATE HISTORIC PRESERVATION OFFICE

Artifact Identification – Susquehanna Room

JAMES HERBSTTRITT AND DAVID BURKE,
CURATORS, SECTION OF ARCHAEOLOGY

Special Thanks

State Historic Preservation Office, PHMC

WORKSHOP REGISTRATION FORM

Note below if you are a student,
PA Heritage Foundation, SPA or
PAC member

Registration Name(s) _____ Affiliation _____
 Contact Information Please print clearly _____
 Address _____ City _____ State _____ Zip _____
 Street _____
 Phone (Home) _____ (Work) _____
 Email (required for email registration confirmation) _____

Bagged lunch options: Yellow Bird Café, Harrisburg (must pre-order and pay in advance)

- OPTION #1:** Chicken Caesar wrap - \$8.50
Qty: _____
- OPTION #2:** Chicken, lettuce, tomato, Caesar dressing, whole wheat wrap. Chips.
Qty: _____
- OPTION #3:** Vegetable wrap - \$8.50
Qty: _____
- OPTION #4:** Tomato, cucumber, roasted red peppers, banana peppers, guacamole, spinach, Provolone, whole wheat wrap. Chips.
Qty: _____
- OPTION #5:** Turkey and arugula - \$8.50
Qty: _____
- OPTION #6:** Oven roasted turkey, Provolone, garlic aioli, arugula, tomato, ciabatta roll. Chips.
Qty: _____
- OPTION #7:** Diced chicken in mayo mixture with grapes, apples, dried cranberries, leaf lettuce, Ciabatta roll. Chips.
Qty: _____
- ADD COOKIE:** \$1.75 each
Chocolate chip _____ peanut butter (GF) _____ snickerdoodle _____
Qty: _____ Qty: _____ Qty: _____

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| Registration Fee: | |
| Early Registration (by Oct. 20): | \$25.00 |
| Student: | \$15.00 |
| PA Heritage Foundation: | \$15.00 |
| SPA and PAC Members: | \$15.00 |
| Registration at Door: | \$35.00 |
| No Discounts at Door | |

Participants can also register online with a credit card at:
statemuseumpa.org/WorkshopsInArchaeology
 Completed registration form and your check payable to:
 Pennsylvania Heritage Foundation
 400 North Street
 Harrisburg, PA 17120-0024

Early Registration: \$ _____
Bagged Lunch: \$ _____
Total Amount Enclosed: \$ _____