

**The 89th Annual Meeting
of the
Eastern States Archaeological Federation**

Program and Abstracts



November 4-6, 2022
Shippensburg University, Shippensburg, Pennsylvania

Preliminary Program

ESAF Officers

PresidentJonathan Lothrop
President-ElectZachary Singer
TreasurerTimothy Abel
Corresponding Secretary.....Martha Otto
Recording Secretary.....Dick Doyle

Annual Meeting Committee

Chair and Accommodations.....John Wah
ProgramZachary Singer
Book Room OrganizerJohn Nass

Program

Thursday, November 3

6:00-8:00PM Registration Table at Clarion Hotel & Suites University - Shippensburg
32 East King St., Shippensburg, PA, 17257

Friday, November 4

8:15 AM-12:00PM Pre-Contact Rhyolite Quarries of Michaux State Forest

Location: Meet at 8:15AM at Caledonia State Park at the Caledonia Furnace Stack Parking Lot.

The closest address: 30 Pine Grove Rd., Fayetteville PA, 17222.
GPS Coordinates: (39.906704, -77.477843)

****At **8:30AM**, the car caravan will depart from Caledonia State Park and drive to the quarry parking area. If you arrive *after* the car caravan departs, you will not be able to attend the field trip.

What to Expect: The rhyolite quarries are located on a rocky ridge with uneven terrain. Be prepared for a moderate hike with hills and forested conditions. The rocky terrain of Michaux State Forest is habitat for timber rattlesnakes, review DCNR's [Timber Rattlesnake in Pennsylvania's State Forests Brochure \(PDF\)](#) for additional information. Fortunately, November is the start of brumation season, however folks should be aware of the possibility of encountering snakes.

What to Bring: Water, sturdy shoes, bug spray.

12:00 Lunch- On your own

Afternoon Paper Session- Stewart Hall, Shippensburg University
1833 Old Main Drive
Shippensburg, PA 17257

2:00PM-5:00PM Registration Table- Stewart Hall

3:00PM-5:00PM Book Room- Stewart Hall

3:00PM *South Mountain Rhyolite Quarrying*
Organizers: Paul Marr (Shippensburg University) and John Wah (Matapeake Soil and Environmental Consultants)

3:00 *Lithic Characteristics of the Snaggy Ridge Rhyolite*
Mark Tucker (Independent Researcher)

3:25 *Prehistoric Quarrying with Fire Redux: Recent Research Experiments at South Mountain, PA*
Steve Nissly (Society for Pennsylvania Archaeology), Jack Cresson (AECOM, RGA, AHRS, NV5), Bob Bodnar (Society for Pennsylvania Archaeology), Barry Keegan (The New York State Archaeological Association), Dave Brill, and Cedar Brill.

- 3:50 *The Green Cabin (36AD0569) Rhyolite Quarry Site, South Mountain, Pennsylvania*
Paul Marr (Shippensburg University) and John Wah (Matapeake Soil and Environmental Consultants)
- 4:15 *Lidar, GPR, and GIS-Based Investigation of Native American Quarry Pits and Multiple Hill Slope Features at the Green Cabin Site, South Mountain, Pennsylvania*
Sean Cornell (Shippensburg University), Paul Marr (Shippensburg University), John Wah (Matapeake Soil and Environmental Consultants), and Robert Joyce (Silver Spring Township)
- 4:40 *South Mountain Rhyolite Use in Maryland: A Survey of Diagnostic Projectile Points*
Zachary Singer (Maryland Historical Trust) and Mark Tucker (Independent Researcher)

6:00PM **ESAF Board Meeting**
University Grill, Clarion Hotel & Suites

8:00PM **The Canadian-American Friendship Party**
University Grill, Clarion Hotel & Suites

Saturday, November 5

8:00AM-4:00PM Book Room- Stewart Hall

8:00AM-4:00PM Registration Table- Stewart Hall

8:00AM Morning Paper Session- *Stewart Hall, Shippensburg University*
1833 Old Main Drive
Shippensburg, PA 17257

General Topics in Eastern North American Archaeology

*Student Paper Contest

8:00 *Research Progress Update: The Micromorphology of Glacial Sediment in Early Pottery from New York State*
Ammie Chittim (Northeastern Petrographic Services)

8:25 *Radiocarbon Dating the Iroquoian Occupation of Northern New York: An Update*
Timothy Abel (Consulting Archaeologist)

8:50 *Monongahela Phases: Criteria & How to Determine a Site's Phase**
Andrew R. Malhotra (Cultural Resource Analyst, Inc. & Indiana University of Pennsylvania)

9:15 *When the Corn is in the Milk: Using Phytolith Analysis to Identify Variable Maize Processing Strategies*
Krista Dotzel (University of Connecticut)

9:40 Break

10:00 *Research in the Munsungan Lake Region: Updates from the 2021 and 2022 Field Seasons*
Nathaniel Kitchel (Dartmouth College) and Heather Rockwell (Salve Regina)

10:25 *Digging Deeper: Mechanized Archaeology in the Hunt for Stratified Paleoindian Sites.*
Brian L. Fritz (Quemahoning LLC)

10:50 *Interpreting A Late Woodland Post Circle at the Heckelman Site, Erie Co., Ohio*
Brian G. Redmond (Cleveland Museum of Natural History)

11:15 *The Taylor Site*
Glenwood Boatman (Western Lake Erie Archaeology Research Program)

11:40 Lunch- On your own

1:00PM Afternoon Paper Session
General Topics in Eastern North American Archaeology

1:00 *Lithic Raw Material Sources in the Quoddy Region, Washington County, Maine: A View from the Reversing Falls site (80.15)*
Alexander A. Honsinger (SWCA), M. Gabriel Hryn timer (University of New Brunswick Fredericton) and Arthur W. Anderson (University of New England)

1:25 *Coastal Erosion of Pre-Contact Archaeological Sites in Southern Nova Scotia and Downeast Maine*
Gabriel Hryn timer (University of New Brunswick), Matthew Betts (Canadian Museum of History) and Arthur Anderson (University of New England)

1:50 *Human-canine Relationships and Diet in Machias Bay, Maine: Results and Future Work*
Abby Mann (University of New Brunswick)

2:15 *Locating Slave Quarters and Mapping Enslaved People in Canada: A Case Study in New Brunswick**
Emily Draicchio (University of New Brunswick)

2:40 Break

3:00PM **ESAF General Business Meeting**
Stewart Hall

Banquet and Plenary Talk
Appalachian Brewing Company
15 W. King St, Shippensburg, PA 17257

5:30 PM Cash Bar

6:15PM Dinner

7:30PM Plenary Speaker

Dr. Jarrod Burks (Ohio Valley Archaeology, Inc.)

*The Last Great Escape: The Recovery of 1st Lt. Ewart Sconiers, an American WWII Bombardier
Imprisoned at the Stalag Luft III POW Camp, Poland*



Like many POW recoveries, locating 1st Lt Ewart Sconiers required research, persistence, and good old-fashioned luck. While imprisoned at the Stalag Luft III POW camp in German-occupied Poland, complications from an injury sent Sconiers to a hospital in a neighboring town—where he died. His burial occurred in a nearby municipal cemetery. During the Russian occupation of Poland, the above-ground cemetery features were “erased,” and memories of the American POW’s grave faded. An interesting cast of characters—Ewart’s Army—participated in his recovery, and in this talk I explore the various sorts of archaeological common sense (e.g., photograph analysis) and seasoned techniques (e.g., geophysical survey, trench excavation) we used to help move the project forward and bring Sconiers home.

Dr. Burks has been an archaeological Principal investigator with OVAI since 1999. He is an expert in the use of geophysical instruments in archaeology, such as magnetometers and ground-penetrating radar, and he has conducted geophysical surveys all across the country and beyond—including on missions to search for missing U.S. servicemen. Recently, Dr. Burks directed the 2015 Lt. Ewart Sconiers Recovery Project, Lubin, Poland. Jarrod also shares his geophysics expertise with other archaeologists as an instructor in the National Park Service’s (Midwest Archeological Center) annual workshop on geophysics in archaeology, which moves to a new place in the U.S. each year.

In addition to being a very active and respected field archaeologist, Dr. Burks also serves in many other professional capacities. He is the president of the Heartland Earthworks Conservancy, an organization that works to preserve Ohio’s ancient American Indian mound and earthwork sites; he is the treasurer of the Midwest Archaeological Conference; and he is the past president and currently a trustee of the Ohio Archaeological Council. But more than anything, Jarrod thoroughly enjoys sharing his discoveries about Ohio’s past with the public. He gives dozens of talks annually to a wide variety of public audiences all around Ohio and in surrounding states.

Sunday, November 6

8:00AM Morning Paper Session- *Stewart Hall, Shippensburg University*
1833 Old Main Drive
Shippensburg, PA 17257

General Topics in Eastern North American Archaeology

- 8:00 *Identification of an Ice Age Tool Cache in New York*
Jonathan C. Lothrop (New York State Museum)
- 8:25 *A Preliminary Report on Recent Test Excavations at the Shoop Paleoindian Site Located in the Ridge and Valley Physiographic Zone of Central Pennsylvania*
Kurt W. Carr (State Museum of Pennsylvania, Retired), Joseph P. Vitolo, Brian Harrison, Sharon McDonald, Robert Ronngren, and Danean Walker
- 8:50 *The Original Travel Plaza: 19th Century Taverns Along the National Road, A Perspective from Fayette County, Pennsylvania*
John Nass, Jr. (Society for Pennsylvania Archaeology) Laura Coley, Beverly Santella, Dwayne Santella
- 9:15 *LiDAR prospection of 19th century iron ore mines in the Deer Creek valley of northwestern Pennsylvania.*
Chuck Williams (Columbia Southern University)
- 9:40 Break
- 10:00 *A New View of American Fort Presque Isle, Erie*
Paul A. Raber (Heberling Associates)
- 10:25 *Exploring the Maryland Eastern Piedmont Providence Upland Foothills Landscape, Headwater Springs and Wetland Aerobic Environment, and Human Habitat: In the Late Archaic*
Stephen Israel (Archeological Society of Maryland, Inc.)

10:50 **ESAF State Society Roundtable**

Roundtable discussion focusing on how the various state societies are coping with the logistics of 21st century volunteer organizations, i.e. social media outreach, sustaining membership, and online economics for journal sales and membership renewal.

ABSTRACTS

Abel, Timothy (Consulting Archaeologist)

Radiocarbon Dating the Iroquoian Occupation of Northern New York: An Update

Since 2016, I and other researchers have been working to construct a new and improved AMS radiocarbon-based chronology of the Iroquoian occupations of northern New York. As of 2019, we had amassed 55 new AMS dates from 18 of more than 50 known components. Modeling 43 of those dates, we constructed Bayesian models to show that the entire occupation spanned only 70-100 years from c. AD 1450-1520 (68.2% confidence). This paper updates the models using 15 additional dates. The new dates do not significantly alter the earlier models, but they do add interesting new information about the validity of ceramic seriations. Dates show conclusively that one of the site cluster sequences should be reversed in its order of occupation.

Boatman, Glenwood (Western Lake Erie Archaeology Research Program)

The Taylor Site

The Taylor site (33ER3) is off S.R. 13. on the Huron River. It is 4 miles upstream from Lake Erie, and two miles upstream from the Esch Mounds Hopewellian site (33ER1). It was a Middle and Late Woodland to Late Prehistoric site (360-1550 A.D.). There is also evidence of Late Archaic presence. The site was excavated for 8 years from 2000-2007 by the Sandusky Bay Chapter, ASO and Firelands Archaeological Research Center, with direction by Dr. David Stothers. It was determined to be a Mortuary District and limited habitation site. Carbonized maize, beans, and nutshell were recovered. Twenty five (25) radiocarbon dates were obtained, paid for by the Sandusky Bay ASO at a cost of \$10,000. Artifacts recovered included: pipes, shell belts and necklaces, bone tools, pottery vessels and rimsherds, projectile points from several time periods, adz and celts, bladelets, end scrapers, knives, and banner stone fragments.

Carr, Kurt W. (State Museum of Pennsylvania, Retired), Joseph P. Vitolo, Brian Harrison, Sharon McDonald, Robert Ronngren, and Danean Walker

A Preliminary Report on Recent Test Excavations at the Shoop Paleoindian Site Located in the Ridge and Valley Physiographic Zone of Central Pennsylvania

John Witthoft published the first comprehensive report on the Shoop site, 70 years ago in 1952. Since Witthoft's publication, there have been several investigations of the site primarily based on surface collections from plowed fields. However, site function, and specific dating remain unclear. Although Witthoft suggested the site contained eleven artifact concentrations representing separate visits by individual bands none have been systematically investigated and all are in plow disturbed contexts. In addition, although there is a consensus based on the fluted points that this is an early Paleoindian site, does it date to the Allerod warming episode or the severe cooling conditions of the Younger Dryas? This presentation will report on the discovery of a new artifact concentration in an unplowed wooded area. The goal is to examine this concentration to further our understanding of site function and to identify a charcoal feature for radiometric dating.

Chittim, Ammie (Northeastern Petrographic Services)

Research Progress Update: The Micromorphology of Glacial Sediment in Early Pottery from New York State

This presentation is part of an ongoing research project that seeks to investigate the source of sediment used by ancient potters in the Northeast. In April of 2022, 35 geologic samples were collected from 16 sites across New York State. These samples were collected from well-known glacial landforms, including lakebeds, fluvial terraces, moraine, aeolian, and kettle and kame. The sediment samples were produced into petrographic slides for analysis so that they could be compared with previously collected and

analyzed archaeological thin section samples. The goal of this research is to create a petrographic method of provenancing early ceramic material in the Northeast. This presentation will provide a summary of work completed thus far.

Cornell, Sean R., Paul G. Marr, John S. Wah, and Robert T. Joyce

Lidar, GPR, and GIS-Based Investigation of Native American Quarry Pits and Multiple Hill Slope Features at the Green Cabin Site, South Mountain, Pennsylvania

High-resolution LiDAR was used to detect numerous 1-10m depressions at the Green Cabin site. Field investigation revealed evidence of Native American quarrying for stone tool material. This study focused on ascertaining characteristics of benched landforms along the SE-facing slope. LiDAR and field investigations reveal terraced flat benches separated by steep-sloped risers. A superimposed elongate (flow?) landform perpendicular to the benches was also detected. Others have interpreted similar regional features as periglacial gelifluction lobes formed during the Pleistocene. Cosmogenic dating elsewhere suggests a range of ages for gelifluction development, yet the superimposed feature is yet to be dated. In this study, we collected GPR profiles (using a Mala X3M, 250Mhz), completed excavation pits, and soil probes to resolve sub-surface characteristics to evaluate the periglacial flow hypothesis. Although conclusive evidence is still needed, results show a complex history with several stages of slope movement ending by the Holocene when quarrying commenced.

Dotzel, Krista (University of Connecticut)

When the Corn is in the Milk: Using Phytolith Analysis to Identify Variable Maize Processing Strategies

Although most existing research into maize processing strategies has focused on nixtamalized and dried maize, ethnohistoric sources indicate that Indigenous populations across the North American continent and in the Northeast regularly harvested and processed not only dried forms of maize but immature, green forms of maize. This paper will outline a novel approach to identifying variations in maize processing strategies in the archaeological record using phytolith analysis paired with macrobotanical data. This paper will further compare the phytolith results from three sites in Connecticut and Rhode Island with occupations that date between AD 1100–1600. The early results indicate that phytolith analysis can be used to identify sites at which the occupants harvested and processed maize at different stages of maturity and also indicate that there existed variation in processing strategies between sites in southern New England.

Draicchio, Emily (University of New Brunswick)

Locating Slave Quarters and Mapping Enslaved People in Canada: A Case Study in New Brunswick

In the popular imaginary, Canada is considered a land of freedom that is inclusive and without a colonial past. This problematic myth of Canadian exceptionalism is founded upon a national history that romanticizes the Underground Railroad, while neglecting Canada's direct participation in the enslavement of Black and Indigenous peoples. Although the study of Canadian slavery is a burgeoning discipline that has been analyzed by historians, archaeologists have failed to consider their role in the field. Given this paucity of archaeological research, little is known concerning the daily lives of the enslaved in Canada. My research addresses this gap and dismantles a piece of Canada's national narrative by locating, documenting, and analyzing the slave quarters of Loyalists in New Brunswick (1783-1834) through the examination of archival material and by completing Geographic Information System (GIS) site mapping with a story map component. By combining archaeological and historical methods with an application of Black studies theories, I suggest that archival, material, and geospatial evidence can be rearranged to reimagine the enslaved experience in Canada.

Fritz, Brian L. (Quemahoning, LLC)

Digging Deeper: Mechanized Archaeology in the Hunt for Stratified Paleoindian Sites.

Paleoindian sites with fluted points are not uncommon across Pennsylvania. However, only a few stratified Paleoindian sites have been archaeologically investigated in Pennsylvania. If we want to better understand the arrival of these First Americans, we need to discover more stratified sites. Deep alluvial soils hold the greatest potential for containing early sites, but excavating deep archaeological test pits is labor intensive and too often cost prohibitive. Mechanized archaeology promises to lower the cost of deep archaeological testing. The PaleoDigger machine is presented as one solution for advancing First American studies.

Hrynick, Gabriel (University of New Brunswick), Matthew Betts (Canadian Museum of History) and Arthur Anderson (University of New England)

Coastal Erosion of Pre-Contact Archaeological Sites in Southern Nova Scotia and Downeast Maine

Coastal erosion poses a global threat to the archaeological record, destroying cultural and environmental information that, ironically, is crucial for providing baseline data for researchers and policy makers seeking to address climate change. Much as contemporary climate change stands to most negatively impact marginalized peoples, the Indigenous archaeological record in the coastal Northeast is particularly vulnerable. In this presentation we present and compare the results of two coastal archaeological site audits, one in southern Nova Scotia in 2017 and the other in Downeast Maine in 2018 to localize and quantify the effects of coastal erosion. Our research suggests a similar pattern of destruction and may be useful for devising targeted salvage strategies for archaeologists and resource managers.

Israel, Stephen (Archeological Society of Maryland, Inc.)

Exploring the Maryland Eastern Piedmont Providence Upland Foothills Landscape, Headwater Springs and Wetland aerobic environment, and Human habitat: In the Late Archaic

This presentation summarizes 30 years of archaeological surveys and test excavations in exploring the Maryland's Eastern Piedmont Plateau Providence of low rolling foothills and headwaters and springs in the Big Gunpowder Falls and adjacent Watershed Basins of north-central Maryland in the 1990s, 2000s, 2010s, and early 2020s. The goals of the ongoing investigations are (1) to assess the research potential, (2) to establish a refreshed data base to advance the Piedmont headwaters documented archaeological resources, (3) to increase public outreach, awareness, and participation. As a final point, (4) major questions on updating and expanding the Maryland Piedmont data base and the protection of the sites and resources are discussed.

Kitchel, Nathaniel (Dartmouth College) and Heather Rockwell (Salve Regina University)

Research in the Munsungan Lake Region: Updates from the 2021 and 2022 Field Seasons

The Munsungun Lake Formation in northern Maine contains some of the most intensively used Indigenous toolstone quarries in northern New England. Despite the archaeological potential of this area, little work had been undertaken in the area since the late 1970s. Since 2016 we have conducted archaeological survey and testing in this region to identify and test previously unidentified chert quarries and stone tool manufacturing workshops. To date we have located several unrecorded chert quarry areas, including the only known source of high quality red and red and green mottled chert within the Munsungun Lake formation. We have conducted survey and testing at this location since 2018. Here we report the results from the fall 2021 survey and spring 2022 Salve Regina Archaeological field school survey and excavations at this recently identified quarry related workshop.

Jonathan C. Lothrop (New York State Museum)

Identification of an Ice Age Tool Cache in New York

Caching of supplies and equipment was a common strategic practice for historically documented hunter-gatherers in northern latitudes. In the glaciated Northeast, between roughly 13,000 and 11,600 calendar years before present, early Native Americans known to archaeologists as Paleoindians inhabited subarctic landscapes with climates and environments similar to historic/modern high latitude settings. Beginning in the 1960s, archaeologists began recording caches of Clovis stone tools west of the Mississippi. More recently, rare discoveries of Paleoindian stone tool caches have emerged in the glaciated Northeast. This presentation reviews published artifact caches associated with fluted point groups in the Northeast, and reports on recent recognition of a Paleoindian tool cache at the Potts site in central New York. This identification carries broader implications for the recognition and significance of indigenous tool caching in the Ice Age Northeast.

Malhotra, Andrew R. (Cultural Resource Analyst, Inc. & Indiana University of Pennsylvania)

Monongahela Phases: Criteria & How to Determine a Site's Phase

Several major works have sought to both summarize and redefine the Monongahela Tradition, with each subsequent article updating the previous one with new research. A paramount focus of these articles has been the Monongahela phases, focusing on what are the phases, and what do researchers know about each phase. Despite these major efforts to summarize and explain the Monongahela phases, new and old researchers alike can find themselves lost. When it comes to applying this information to a given site in order to assign a given site to a given phase. This research hopes to solve this problem by compiling the given criteria for each phase, along with other important information such as the type site and the defining article. Through this information how to properly identify what Monongahela phase(s) is(are) present at a given site will be discussed at length, along with identifying areas researchers disagree on certain information.

Mann, Abby (University of Maine)

Human-canine Relationships and Diet in Machias Bay, Maine: Results and Future Work

Few studies in the Maine-Maritime Peninsula region have analyzed dog remains from the Ceramic period (ca. 3050-450 BP) and none from the Late Ceramic period for subsistence trends. Four canine individuals from the Holmes Point West site (ME 62-8) in Machias Bay, Maine were the subject of this study, with special emphasis placed on legacy collections. Traditional lines of evidence are complemented by dietary data available through stable isotope analysis. Dietary evidence from dogs is used as an analogy for human diet, following the Canine Surrogacy Approach (CSA).

All dogs examined from the study site were radiocarbon dated to the Late Ceramic Period (ca. 950-450 BP) and findings suggest that they may have fulfilled diverse roles. Stable isotope results indicate an increasingly terrestrially-oriented diet ca. 600 BP for dogs, a shift from overwhelmingly marine-oriented diet indicated by canine dietary data from comparative Ceramic period sites.

Marr, Paul (Shippensburg University) and John Wah (Matapeake Soil and Environmental Consultants)
The Green Cabin (36AD0569) rhyolite quarry site, South Mountain, Pennsylvania

The Green Cabin prehistoric rhyolite quarry site (36AD0569) differs from other South Mountain quarry sites in that it is located on a mass-movement feature. The feature has been extensively quarried, with no evidence of quarrying within the feature origin area, suggesting that the usable rhyolite was transported down slope. The feature is several meters thick, and there is no evidence that quarrying reached bedrock. Soil reaches depths of >7m in the origin area and profiles suggest the feature is pre-Wisconsin in age. In 2020 test pits were excavated below and above the visible quarry pits to address basic questions regarding the feature's internal structure. Artifacts were recorded at depths of >1m in lower test pit #3, suggesting extensive quarrying beyond what is visible at the surface. In the summer of 2022 a hand-excavated trench was opened near one of the lower test pits. This presentation will highlight our initial findings.

Nass, Jr., John (Society for Pennsylvania Archaeology) Laura Coley, Beverly Santella, Dwayne Santella
The Original Travel Plaza: 19th Century Taverns Along the National Road, A Perspective from Fayette County, Pennsylvania

Both domestic and commercial travel along the National Road during the first-half of the 19th century were made easier by the existence of taverns and tavern stands that provided food, drink and lodging. Such comforts afforded those traveling the National Road a welcome break, if only a brief respite. One such rest stop, the Green Tree Tavern Stand (35Fa588) located in Fayette County, has been the subject of archaeological investigation since the summer of 2019 by members of the Mon-Yough Chapter #3 and volunteers. Using archival and 19th century maps, the tavern stand can be temporally bracketed between ca. 1815 and 1850. The recovered archaeological remains, together with data from the Peter Colley Tavern (36Fa92) and Searight Tavern (36Fa88), also in Fayette County, help provide a contextual window into the function and daily life of pre-1850 taverns such as the Green Tree.

Nissly, Steve (Society for Pennsylvania Archaeology), Jack Cresson (AECOM, RGA, AHRS, NV5), Bob Bodnar (Society for Pennsylvania Archaeology), Barry Keegan (The New York State Archaeological Association), Dave Brill, and Cedar Brill.

Prehistoric Quarrying with Fire Redux: Recent Research Experiments at South Mountain, PA

The "Prehistoric quarrying with fire" project spans decades of research- first observed by the principal author on the NJ Coastal Plain, and then later confirmed through cooperative extensive field research, archaeology and experiments. This presentation will outline our most recent experiments on Pennsylvania rhyolite, at South Mountain, PA, within the massive quarry district located in Adams and Franklin counties. The seminal and ongoing work by senior author Robert Bodnar inspired and enabled these experiments, conducted in the Fall of 2020, within his archaeological excavation trenches at South Mountain (36 AD 0576), targeting large float boulder exposures. Two fire spalling experiments were carried out. Each was remarkably successful in providing massive amounts of toolstone which supported archaeological evidence- in both the visible character of fire spalled debitage, as well as, confirmed the presence of abundant charcoal coaligned with the quarry debris. The presentation will show the results of these experiments.

Raber, Paul A. (Heberling Associates)

A New View of American Fort Presque Isle, Erie

Recent archaeological investigations at Garrison Hill in Erie, the site of American Fort Presque Isle (1795-1815), included preliminary geophysical survey, systematic shovel test pit excavation, and the excavation of several blocks and test units that ultimately exposed 100 m² within the 0.43 ha area of potential effects for a bridge replacement project on the grounds of the Soldiers' and Sailors' home. The results add substantially to the information available from Harry Schoff's 1937 WPA-supported excavations for the Pennsylvania Historical Commission and the field school conducted by Mercyhurst College in the 1990s. Collectively, the results provide a more detailed view of the activities at the fort during its two decades of use up to and including the War of 1812.

Redmond, Brian G. (Cleveland Museum of Natural History)

Interpreting A Late Woodland Post Circle at the Heckelman Site, Erie Co., Ohio

Recent investigations at the Heckelman site in Erie Co., Ohio have uncovered the remains of an early Late Woodland post circle. This construction measures 13 meters in diameter and dates to cal. AD 570-770. The circle (Structure 5) surrounds a number of shallow basins, charcoal deposits, a large storage pit, and possible interior support posts, the last of which suggests that this was a roofed structure. This presentation will describe the feature and material remains of Structure 5 to assess whether it represents a place of ritual and ceremony, social gathering, a domestic dwelling, or all of these.

Singer, Zachary (Maryland Historical Trust) and Mark Tucker (Independent Researcher)

South Mountain Rhyolite Use in Maryland: A Survey of Diagnostic Projectile Points

This presentation provides an overview of South Mountain Rhyolite use in Maryland based on data from the Maryland Archaeological Conservation Laboratory's diagnostic projectile point type collection. Macroscopic criteria were employed to identify projectile points that are likely made of South Mountain Rhyolite. Chronological trends of South Mountain Rhyolite use will be considered based on projectile point typology. Geographic trends in South Mountain Rhyolite transportation will be investigated through geo-spatial comparisons of projectile point provenience within physiographic regions and on the county-level.

Tucker, Mark (Independent Researcher)

Lithic Characteristics of the Snaggy Ridge Rhyolite

The Snaggy Ridge rhyolite originated as glassy lava flows. The rock is often porphyritic with phenocrysts of feldspar and quartz. The groundmass is typically aphanitic where mineral grains cannot be seen with the naked eye. Structures observed in some hand samples include flow bands, axiolites, mottles and flow breccia. Flow banding consists of differing shades of gray that occur in parallel bands. Axiolites are zones of crystallization that have the appearance of thin veinlets. Mottles are irregularly shaped regions of light gray and dark gray. Flow breccia originated when the original lava solidified into a crust that was subsequently fragmented and re-incorporated back into the lava.

Williams, Chuck (Columbia Southern University)

LiDAR Prospection of 19th Century Iron Ore Mines in the Deer Creek Valley of Northwestern Pennsylvania

The rural 19th century iron industry in Clarion County, northwestern Pennsylvania, used locally mined carbonate or buhrstone ore (FeCO_3) to produce pig iron exported to Pittsburgh via river. Open pit mining was the dominant method used to access ore and associated Vanport limestone used for flux in smelting. Mining of carbonate ore from outcrops was extensive. Geologist H.M. Chance (1880) noted that in Clarion County there was hardly a mile of outcrop but shows some traces of old diggings or prospecting holes. I used LiDAR imagery to locate putative ore mining sites in the lower Deer Creek valley of Clarion County, a landscape that supported five charcoal-fueled furnaces in blast between 1832 to 1859. Five putative ore mining sites were identified from LiDAR imagery and confirmed on by ground-truthing. Mining areas were mainly situated on easily accessed ore outcrops on slope landforms.