



**EASTERN STATES
ARCHEOLOGICAL FEDERATION**

83rd ANNUAL MEETING

November 3 - 6, 2016

**Sheraton Bucks County
Langhorne, Pennsylvania**

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General Information

REGISTRATION: Meeting registration is required for all presentations. Saturday banquet and tours are open to guests of registrants. The registration/information desk is open Thursday evening and re-opens Friday morning at 8:00 AM.

NAME TAGS: Please wear it at all ESAF functions.

BOOK and EXHIBIT ROOM: This will be open from 8:00 am – 5:00 pm on Friday and from 8:00 am – 4:00 pm on Saturday. Vendors may set up Friday morning. All exhibits and books must be removed by 5:00 pm on Saturday.

SESSIONS: Sessions will be held in the University 1 and 2 rooms.

HOSPITALITY SUITE: Location to be posted by the Registration table.

**DAYLIGHT SAVINGS TIME ENDS SATURDAY NIGHT
SET YOUR CLOCKS BACK ONE HOUR.
SUNDAY TIMES ARE LOCAL EASTERN STANDARD TIME**

Thursday November 3, 2016 A Tour of Two New Jersey Paleoindian Localities

ESAF is offering a tour of the Snyder Paleoindian Complex and the Plenge Paleoindian site. The Snyder Complex is situated on the Delaware River in New Jersey. At least one of the Paleoindian sites there is stratified and currently under excavation by Jen Rankin. The Plenge site, collected and monitored for years by Leonard Ziegler, reported by Herb Kraft in 1973 and Joe Gingerich in 2013, is less than 15 miles away and as an added treat we will be stopping there in the afternoon. This site has produced nearly 200 fluted points and preforms representing practically every fluted point type in the East.

The tour will start at 9:00 am on Thursday, November 3rd leaving from the hotel. There will be two vans with room for eight passengers. Everyone else will follow in their own vehicles or carpool with others. The plan is to first drive to the Snyder Complex and then after lunch to the Plenge site. Your tour guides include: Kurt Carr and Janet Johnson (Pennsylvania State Museum), Jen Rankin (Temple University, AECOM), Michael Stewart (Temple University, New Jersey Historic Preservation Office), and Leonard Ziegler (Society for Pennsylvania Archaeology, Archaeological Society of New Jersey).

Dress appropriately for the weather and walking in fields. Bottled water will be provided but attendees should bring their own lunch. We will return to the hotel by 5:00. There is a registration fee of \$10.00 to cover handouts and incidentals.

SESSION A (University 1)
FRIDAY, NOVEMBER 4, 2016

Lithic Quarries in Pennsylvania: The Archaeology of Tool Stone Procurement
Chaired by Kurt Carr, Senior Curator of Archaeology, The State Museum of Pennsylvania

The study of tool stone procurement and distribution has been a long-standing interest for archaeologists in Pennsylvania and surrounding regions. Despite this, there have been few systematic archaeological studies of quarries, outcrops and secondary sources. This symposium summarizes the available information on quarries and other tool stone sources and the exploitation of these resources by the prehistoric inhabitants of Pennsylvania, both hunter-gatherers and horticulturalists.

- 8:30-8:35 a.m. Welcome, Kurt Carr, ESAF President
- 8:35-8:50 a.m. Session Introduction, Kurt Carr
- 8:50-9:10 a.m. The Geologic Origins and Distribution of Tool Stone in Pennsylvania (Frank J. Vento, Clarion University of Pennsylvania)
- 9:10-9:30 a.m. An Overview of the Recorded Tool Stone Quarries in Pennsylvania (Kurt W. Carr, Senior Curator of Archaeology, The State Museum of Pennsylvania)
- 9:30-9:50 a.m. Jefferson County Chert (Kenneth Burkett, Executive Director of the Jefferson County History Center)
- 9:50-10:10 a.m. The Exploitation of Quartzite in the Lower Juniata and Susquehanna Valleys: Outcrops and Cobble Sources (Paul A. Raber, Heberling Associates, Inc.).
- 10:10-10:30 a.m. The Procurement of Quartz as a Tool Stone (Thomas Lewis, CHRS, Inc).
- 10:30 a.m. **Break**
- 10:50-11:10 a.m. Sourcing and Studying the Source: Bald Eagle Jasper Quarries and the Houserville Habitation Complex (Tim Murtha, Penn State University).
- 11:10-11:30 a.m. Landscapes of Lithic Extraction and Small Scale Lithic Economies: The View from Penns Creek, Snyder County, PA, (Gregory Katz, Senior Archaeologist Heritage Resources, Louis Berger).
- 11:30-11:50 a.m. Late Prehistoric Patterns of Lithic Raw Material Exploitation in Western Pennsylvania (Beverly A. Chiarulli, Indiana University of Pennsylvania, retired).
- 11:50 a.m. **ESAF Executive Board Meeting** in the Lehigh Room
- 1:30-1:50 p.m. The Southeastern Pennsylvania Steatite Quarries (Heather A. Wholey, West Chester University of Pennsylvania).
- 1:50-2:10 p.m. Digging into Quarry Sites: Theoretical Approaches and New Analytical Methods for Understanding Mined Landscapes (Brian L. Fritz, Principal Investigator, Quemahoning LLC).
- 2:10-2:30 p.m. Broadening Perspectives on Regional Quarry-Related Studies (R. Michael Stewart, Temple University & New Jersey Historic Preservation Office).
- 2:30-2:50 p.m. **Break**

Contributed Papers

Chaired by Justin M. Reamer, University of Pennsylvania

- 2:50-3:10 p.m. Jasper Usage in the Paleo-Era of the Shenandoah Valley (Wm Jack Hranicky, Archeological Society of Virginia).
- 3:10-3:30 p.m. More Information About the Popes Creek (18CH74) Burial Mound (Charles McNett, American University).
- 3:30-3:50 p.m. Science, Pseudoscience, and Scientism: The Stone Structures Controversy (Curtiss Hoffman, Bridgewater State University).
- 3:50-4:10 p.m. Monumentalizing the Northeast: A Proposal for the Archaeological Study of Indigenous Stone and Brush Heaps (Justin M. Reamer, University of Pennsylvania)
- 4:10-4:30 p.m. What is the Extent of Hopewell in North Central Ohio (Glenwood Boatman, Western Lake Erie Archaeological Research Program and Black Swamp Chapter, ASO and George Demuth, Sandusky Bay Chapter)

4:30-4:50 p.m. Metz Transitional Ware, the Challenge and Technology (George B. DeMuth, Sandusky Bay Chapter)

Posters

Using Microartifacts to Investigate Prehistoric Cooking Methods at the Dust Cave Archaeological Site (Harley Burgis, Indiana University of Pennsylvania)
Archaeology at the Allee House (Rachael Marks, West Chester University)
Comparison of Archaeological Methods at Fort Necessity National Battlefield (James Miller and Eden VanTries, Indiana University of Pennsylvania)
Preliminary Results of the 2016 Field Season at the Squirrel Hill Site (36Wm0035) (Lara Homsey-Messer and William Chadwick, Indiana University of Pennsylvania)

7:00 p.m. **Canadian-American Friendship Party**

Concurrent Session A (University 2)

Exploring Historical Trajectories Across the Prehistory/History Divide: Protohistoric, Contact, and Early Historic Archaeology from the Eastern Seaboard
Chaired by William A. Farley, University of Connecticut

Archaeological research in the New World has traditionally been divided into two distinct periods: Prehistory and History. Starting in the 1990s notable archaeologists began critiquing this division as arbitrary and ethnocentric. They argued that such categorizations implied native people had no histories prior to their interaction with Europeans. Further, the break has created an illusion of disjuncture in what is actually a fluid trajectory of history in which Europeans played only a partial role in indigenous change and continuity. The papers in this session seek to analyze and localize these critiques by highlighting current research from across the prehistory/history divide. This research offers an opportunity to assess whether our continued use of this terminology is justified by diachronically examining sites from the American East.

8:50-9:10 a.m. Historical Trajectories and the Prehistory/History Dichotomy: A Critical Analysis (William A. Farley, University of Connecticut)

9:10-9:30 a.m. The Devil's Head Site and the Late Maritime Woodland to Protohistoric Transition in Maine's Quoddy Region (Gabriel Hrynck and W. Jesse Webb, University of New Brunswick)

9:30-9:50 a.m. Late Maritime Woodland and Protohistoric Lithics at Devil's Head, Calais, Maine (Christopher E. Shaw, University of New Brunswick)

9:50-10:10 a.m. "In the Main Their Course is Kept:" Indigenous Travel Networks in Maine and New Brunswick Across the Historical Divide (Mallory Moran, The College of William & Mary)

10:10-10:30 a.m. Proto-historic and Early historic period shellfishing in the Quoddy Region (Jeff Speller, University of Toronto; Katherine Patton, University of Toronto and Susan Blair, University of New Brunswick)

10:30 a.m. **Break**

10:50-11:10 a.m. Movement And Landscape In The Late Maritime Woodland And Protohistoric Quoddy Region of the Gulf of Maine (S.E. Blair, University of New Brunswick; K. Patton, University of Toronto, and W. J. Webb, University of New Brunswick)

11:10-11:30 a.m. Native Masculinities, Systems of Warfare, and Adornment: A Study of Cuprous Utilitarian and Decorative Battlefield Assemblages (Megan Willison, University of Connecticut)

Noon **Lunch**

Contributed Papers

Chaired by Ernest A. Wiegand, Norwalk Community College

1:30-1:50 p.m. Allen's Meadows: A Paleoindian Camp in the Norwalk River Valley (Ernest A. Wiegand, Norwalk Community College)

1:50-2:10 p.m. Archaeology's Contribution to the School in Rose Valley (Stephen Israel, The School in Rose Valley)

SESSION B (University 1)
SATURDAY, NOVEMBER 5, 2016
Paleoindian Peoples and Landscapes of the Northeast
Chaired by Jonathan C. Lothrop, New York State Museum, and Zachary L. Singer, University of Connecticut

Since 1980, archaeological research on early human occupations of northeastern North America (circa 13,000-10,000 calendar years BP) has accelerated, leading to growing data sets on Paleoindian sites and state-level point surveys in the New England-Maritimes, eastern Great Lakes, and mid-Atlantic sub-regions. Similarly, our earth scientist colleagues have generated increasingly detailed syntheses of the changes in paleoenvironments and physical landscapes across the Northeast during the late Pleistocene and early Holocene, thereby providing a far better physical context for understanding early human settlement of the region. As a partial consequence, over the last three decades, Paleoindian studies have evolved from dominantly site-focused research to taking more comprehensive perspectives on the early human populations who inhabited the varied physical and cultural landscapes of the Northeast. Reflecting this trend, presenters in this session rely on a range of archaeological and geoaerchaeological data sets to generate new insights on the lifeways of Paleoindian peoples across the Northeast.

- 8:00-8:10 a.m. Session Introduction (Jonathan C. Lothrop and Zachary L. Singer)
- 8:10-8:30 a.m. Have Rocks, Will Travel: Patterns of Lithic Raw Material Use During the Fluted Point Period of Northern New England. (Nathaniel Kitchel, University of Wyoming).
- 8:30-8:50 a.m. Paleoindian Adaptation to the Landscape of Northern New Hampshire. (Richard A. Boisvert, State Archaeologist, New Hampshire Division of Historical Resources).
- 8:50-9:10 a.m. Changes in Latitudes, Changes in Attitudes: A Perspective on Tool Use across New England and the Canadian Maritimes. (Heather M. Rockwell, University of Wyoming).
- 9:10-9:30 a.m. Paleoindian Settlement and Movement along the Champlain Sea. (Francis “Jess” Robinson, Vermont Division for Historic Preservation).
- 9:30-9:50 a.m. Guess Who’s Coming to Dinner: An Exploration of Lithic Tools and Sources at the Bull Brook Paleoindian Site, Ipswich, Massachusetts. (Jennifer Ort, University of Maine and Brian S. Robinson, University of Maine).
- 9:50-10:10 a.m. The Bull Brook Phase: Definition and Important Massachusetts Sites. (R. Michael Gramly, ASAA).
- 10:10-10:30 a.m. Sub-Regional Patterning of Paleoindian Sites with Michaud/Neponset Points in New England and the Canadian Maritimes. (Zachary L. Singer, University of Connecticut).
- 10:30 a.m. **Break**
- 10:50-11:10 a.m. Seasons of Change: An Investigation of Late Paleoindian Mobility and Interaction on a Submerged Landscape. (Ashley K. Lemke, University of Texas at Arlington and John M. O’Shea, University of Michigan).
- 11:10-11:30 a.m. Paleoindian Landscapes in Southeastern and Central New York. (Jonathan C. Lothrop, New York State Museum; Mike Beardsley, NYS Archaeological Association; Mark Clymer, NYS Archaeological Association; Joseph Diamond, SUNY New Paltz; Philip LaPorta, LaPorta Geological Consultants, LLC; Meredith H. Younge, New York State Museum, and Susan Winchell-Sweeney, New York State Museum).
- 11:30-11:50 a.m. The Snyder Complex and Paleoindian Archaeology in the Delaware Valley. (Jennifer C. Rankin, Temple University; AECOM & R. Michael Stewart, Temple University, New Jersey Historic Preservation Office).
- 11:50-12:10 a.m. Pleistocene Depositional Patterns and Their Possible Link to Paleoindian Settlement Patterns in the Middle Atlantic Region, USA. (Joseph A.M. Gingerich, Ohio University, Smithsonian Institution NMNH).
- 12:10 a.m. **Lunch**
- 1:30-1:50 p.m. Paleoindian Lifestyles of the Delmarva Coastal Plain: A Deviation from the Normal. (Darrin Lowery, Chesapeake Watershed Archaeological Research Foundation).
- 1:50-2:10 p.m. Clovis Settlement of the Virginia Eastern Piedmont and Coastal Plain: The View from Little Rocky Creek. (Joseph M. McAvoy and Lynn D. McAvoy, Nottoway River Survey).

2:10-2:50 p.m. Discussants: Brian D. Jones (Connecticut Office of State Archaeology) & Arthur E. Spiess (Maine Historic Preservation Commission)

Contributed Papers
Chaired by Lucy Harrington, Mercyhurst University

2:50-3:10 p.m. Use and Maintenance of Bifaces and Unifaces in Pennsylvania from Paleoindian to Middle Archaic Times (Lucy Harrington, Mercyhurst University)

3:10-3:30 p.m. **Break**

3:30-3:50 p.m. Experimental Design and Discussion for Paleoindian Endsrapers (James Wosochlo, SPA Chapters 14 and 32, and Jennifer Rankin, Temple University; AECOM)

3:50-4:10 p.m. The Bowser Road Mastodon Site, Orange County, New York: Clovis Butchering Techniques and Curated Artifacts (Dennis Vesper and Richard Michael Gramly, ASAA).

4:10-5:30 p.m. **ESAF General Business Meeting**

6:30 p.m. **Cash Bar**

7:00 p.m. **Banquet**

8:00 p.m. **Banquet Speaker: Roger Moeller** (Archaeological Services), A Return to the Templeton Paleo-Indian Site After 40 Years.

CONCURRENT SESSION B (University 2)
SATURDAY, NOVEMBER 5, 2016
Urban Archaeology In Historic Philadelphia
Chaired By Kevin Bradley, Commonwealth Heritage Group

The unrelenting onslaught of progress threatens the history of urban centers across the country on a daily basis. The pace of urban sprawl and redevelopment can eradicate the material remains of hundreds of years of human habitation without so much as a photo or note taken. Despite its significance to human and American history, Philadelphia's past is not regularly spared this all-to-common fate. An increasing population and decaying infrastructure has spurred a cycle of urban renewal throughout the city, resulting at times in the destruction of archaeological and architectural sites to make way for new structures. Occasionally, however, archaeologists are afforded a glimpse at the city's buried history amidst this transition in the built environment. Presenters in this session will discuss some of these recent opportunities and what the recovered archaeological remains of Philadelphia can teach us about the history of one of America's oldest and largest cities.

8:00-8:10 a.m. Printers and Printing along Carter's Alley, Old City Philadelphia (Kevin Bradley, Commonwealth Heritage Group)

8:10-8:30 a.m. Well, Have I Got a Story for You! (Kathryn Wood, Commonwealth Heritage Group)

8:30-8:50 a.m. That Sinking Feeling: The Fortuitous Discovery of an 18th Century Privy in Germantown Philadelphia (Joel Dworsky, AECOM)

8:50-9:10 a.m. Portraits of Life in the River Wards: Histories of Fishtown and Port Richmond (Samuel Pickard, AECOM)

9:10-9:30 a.m. Built Like a Brick Outhouse (Daniel Eichinger, AECOM)

9:30-9:50 a.m. A Closer Look at Everyday Life (Rebecca L. White, AECOM)

9:50-10:10 a.m. Old Venues through New Avenues: Augmented Reality and 3D Printing (Chester Cunanan and Mark Petrovich, Jr., AECOM)

10:10-10:30 a.m. The Remmeys of Philadelphia, Stoneware Potters of Renown (Meta Janowitz and Rebecca L. White, AECOM)

10:30 a.m. **Break**

Contributed Papers
Chaired by Janet Johnson, The State Museum of Pennsylvania

- 10:50-11:10 a.m. Riding the Lightning: An Examination of the Waynesburg And Blacksville Street Railway Company in Green County, Pennsylvania (Marc Henshaw, Michael Baker International).
- 11:10-11:30 a.m. The Emergence of Social Complexity during the Late Prehistoric Period: An Example from Western Pennsylvania (John P. Nass, Jr., California University of Pennsylvania)
- 11:30-11:50 a.m. Effigies of the Susquehannock (Janet Johnson, The State Museum of Pennsylvania)
- 11:50-12:10 a.m. Intra-Family Tenancy in Antebellum West Virginia: An Introduction to the Long Site (46TU302) (Gary Coppock, Skelly and Loy, Inc)

SUNDAY, NOVEMBER 6, 2016
Chaired by Richard Veit, Monmouth University

- 9:00-9:20 a.m. Fraud! Rethinking the Incredible Vaux Collection of Adena Artifacts from Bridgeport, New Jersey (Richard Veit, Monmouth University).
- 9:20-9:40 a.m. Shellfish Foraging in Coastal New Jersey (Ilene Grossman-Bailey, RGA, Inc./ Archaeological Society of NJ)
- 9:40-10:00 a.m. Archaeology of Slavery in Delaware: New Insights from a Northern State (Michael J. Gall, RGA, Inc. and William Liebeknecht, Dovetail Cultural Resource Group).
- 10:00-10:20 a.m. Hillegas Red-bodied Earthenware: Origin, Distribution and Evolution (William Liebeknecht, Dovetail Cultural Resource Group).
- 10:20-10:40 a.m. What's in the Pottery: An Examination of Prehistoric Ceramic Assemblages in New Jersey (Stephanie Codling, Monmouth University)
- 10:40 a.m. **Break**
- 11:00-11:20 a.m. Revisiting the Turkey Swamp Site (Evan Mydlowski, Richard Veit, and Sean McHugh, Monmouth University)
- 11:20-11:40 a.m. Geochemical Analysis of Mica Source Specimens and Artifacts from the Abbott Farm National Historic Landmark (28-Me-1) (Gregory D. Lattanzi, Bureau of Archaeology, New Jersey State Museum; Matthew T. Boulanger, Southern Methodist University; Cody C. Roush, Archaeometry Laboratory, University of Missouri Research Reactor, and Michael D. Glascock, Archaeometry Laboratory, University of Missouri Research Reactor)

PRESENTATION ABSTRACTS
Listed by primary author. Co-Authors listed separately.

Blair, Susan (University of New Brunswick), **Katherine Patton** (University of Toronto), **W. J. Webb** (University of New Brunswick)

Movement And Landscape In The Late Maritime Woodland And Protohistoric Quoddy Region Of The Gulf Of Maine

Archaeological preoccupation with temporal and cultural divisions, and our continued reliance on concepts of components and sites as units of settlement has partitioned the archaeological record of the far Northeast, creating an impression of discontinuity in both settlement and, according to some, ethnicity, especially in the period before and during contact between Indigenous and European cultures. Recent archaeological research in Passamaquoddy Bay, a part of the Quoddy Region of the Gulf of Maine, has uncovered a number of dispersed archaeological deposits dating between 1500 and 400 BP (conventionally referred to in regional culture history models as the Late Maritime Woodland and Protohistoric period). We argue that these deposits indicate a settling into landforms in fragmented, dispersed settlements, that taken collectively, represent a saturation of the landscape by people, allowing microlocal exploitation of a myriad of resources. When contrasted with the better understood record for the period between 2800 and 1500 BP, this later record can be understood as a set of responsive shifts that draw on and transform the pre-existing notions of space, movement, and human-food relations, reworking the way in which people lived in and on landforms and the resources contained within them.

Boatman, Glenwood (Western lake Erie Archaeological Research Program and Black Swamp Chapter, ASO) and **George DeMuth** (Sandusky Bay Chapter)

What is the Extent of Hopewell In North Central Ohio?

Artifacts at the Esch Mounds site suggest to some a southern Ohio Hopewell incursion into Northern Ohio. Earlier Shane and Prufer compared the pottery at Esch Mounds and Heckelman with McGraw Cordmarked. Recent analysis of pottery at the Metz, Seaman's Fort, Heckelman, Weilnau, Esch Mounds and other sites has determined that Esch pottery appears and predates Hopewell at 300 B.C. at Metz and 250 B.C. at Seaman's Fort. Esch pottery is indigenous. Only two vessels at Esch Mounds are of southern Hopewell origin, a Zoned Rocker Stamped vessel and a five footed podial vessel. These vessels and copper and silver artifacts are of southern Hopewellian design. Are they trade items? Prismatic bladelets found alone on several other sites suggest trade. However, burial mounds at the Esch Mounds site argue for Hopewell presence. What is the extent of Hopewell in North Central Ohio?

Boisvert, Richard A. (State Archaeologist, New Hampshire Division of Historical Resources)

Paleoindian Adaptation to the Landscape of northern New Hampshire

Research has been ongoing at the Israel River Complex in Jefferson, NH for over 20 years. In that time six (arbitrarily defined) Paleoindian sites have been identified containing at least 19 loci of specific or concentrated activities all within a zone approximately 1000 meters long and 500 meters wide. While research here will never be considered "complete", we have assembled enough data to present an estimate of how these Paleoindian people utilized the landscape at a micro-topographic scale and how this cluster of sites relates to broader patterns at a sub-regional scale.

Bradley, Kevin C. (Commonwealth Heritage Group)

Printers and Printing Along Carter's Alley, Old City Philadelphia

The 2014 excavation at the site of the Museum of the American Revolution in Old City Philadelphia by Commonwealth Heritage Group (formerly JMA) uncovered hundreds of years of urban life in one of the nation's oldest and most dynamic cities. The recovered material culture painted a colorful picture of a neighborhood that was home to merchants, lawyers, bakers, tanners, laborers, and many other professions. Since the late-eighteenth century, however, Carter's Alley may have best been known for printing and publishing. The storied printing history of Philadelphia includes the innovations of citizens, such as Benjamin Franklin, and the international success of publications, such as *The Saturday Evening Post* and *Philadelphia Inquirer*. Nearly 750 pieces of print type were recovered from the Museum of the American Revolution site. These small lead bars represent the remains of an industry that allowed Philadelphia to serve as an influential center of politics, education, arts and entertainment, and health for centuries. What do these minute artifacts rescued from demolition tell us about the Carter's Alley neighborhood and those who worked and resided there? And what impact did their work have on the city and country?

Burgis, Harley (Indiana University of Pennsylvania) Poster

Using Microartifacts to Investigate Prehistoric Cooking Methods at the Dust Cave Archaeological Site

This study examines microartifacts from the archaeological site of Dust Cave (10,650-3,600 BC), located in northwest Alabama, in order to investigate prehistoric cooking methods. Microartifacts, artifacts measuring less than ¼", are rarely studied by archaeologists, yet they are an important artifact class. This is because while people often throw out larger artifacts when they clean up, the smaller pieces are often overlooked and tend to stay where they are dropped, in primary deposition. Previous research at Dust Cave has defined several feature types; this project compares the large, formally constructed "surface hearths" to the smaller, less formal "expedient hearths." Tentative results from the microartifact analysis suggests that the larger hearths burned at higher temperature, and were multi-purpose in function (i.e., cooked a wide variety of materials). In contrast, the smaller hearths burned at lower temperatures and contain proportionately more shellfish and fish bone than the other types of hearths.

Burkett, Kenneth (Executive Director of the Jefferson County History Center in Brookville, PA)

Jefferson County Chert

Vanport Siliceous Shale (also known as Jefferson County Chert) is a poorly recognized lithic material that is found within the geologic context of northwestern Pennsylvania. This paper will help to identify the sourcing area and discuss a series of local quarry sites and its utilization by prehistoric Native American populations.

Carr, Kurt W. (Senior Curator of Archaeology, The State Museum of Pennsylvania)

An Overview of the Recorded Tool Stone Quarries in Pennsylvania.

In Pennsylvania, the main lithic types for chipped stone tools are chert, jasper, quartzite, quartz, metarhyolite and argillite. This presentation will focus on the nature of bedrock quarries, specifically how the tool stone was extracted and the distribution of these types based on the PASS files. Chert is the most widespread of these although the package size varies and this affects the potential size of cores. Eastern Pennsylvania contains a variety of lithic types, some of which are reasonably distinctive and can be easily sourced (jasper, metarhyolite and argillite). The Upper Ohio basin contains a variety of chert types, unfortunately they are not accurately or consistently reported in the PASS files and sourcing studies are not as easily accomplished.

Chiarulli, Beverly A. (Indiana University of Pennsylvania, retired)

Late Prehistoric Patterns of Lithic Raw Material Exploitation in Western Pennsylvania

During the Late Prehistoric period in the central Allegheny Valley, at least four major lithic raw material types were used for the manufacture of small triangular projectile points and flake tools. The material types used in this region include Onondaga, Loyalhanna, and Shriver cherts and Vanport Siliceous Shale. Workshops and quarries have been identified in the surrounding region. Analysis of the raw material types used in the villages suggests that although the percentage of a raw material type used in any particular village generally reflects the distance to sources, there are some materials that are present in much greater than expected quantities. Analysis of the assemblages suggests that the use of raw materials reflects not only proximity to source areas, but also either perceived qualitative differences in the materials or access to different distribution networks.

Codling, Stephanie (Monmouth University)

What's in the Pottery: An Examination of Prehistoric Ceramic Assemblages in New Jersey

This paper examines ceramics from two prehistoric artifact assemblages housed at Monmouth University, with a focus on Late Woodland ceramics. The first is the Dr. Samuel Kuna collection from northern New Jersey and the second is the Charles Kier collection which contains ceramics from the Indian Head Site in southern New Jersey. I will be comparing the artifacts from the two collections to examine differences in decorative techniques, temper, surface treatment and form. Through this comparison analysis I hope to be able to develop a better understanding of the types and varieties of prehistoric pottery made and employed by the ancient Native American inhabitants of New Jersey and the surrounding areas.

Coppock, Gary (Skelly and Loy, Inc)

Intra-Family Tenancy in Antebellum West Virginia: An Introduction to the Long Site (46TU302)

The Long Site (46TU302), located along the Cheat River in northern West Virginia, represents the remains of the John Long farmstead. Established in 1819, it was occupied by John's nuclear family until abandoned in 1866. A landless farmer at the time of his death in 1838, John was the son of a local slaveholder who owned more than 1,000 acres in Tucker and Randolph counties. The site's last occupants were John's widow, who died in 1865, and their son Washington, an unmarried farmer who served as postmaster from 1858 until his death in 1866 at age 38. While the family lived as intra-family tenants of lower middling economic status, the participation of male family members in local and state-level politics suggests they commanded a relatively high social status. Future research is likely to yield more details about the Long family and their involvement in rural capitalism in antebellum West Virginia.

Cunanan, Chester and Mark Petrovich (AECOM)

Old Venues through New Avenues: Augmented Reality and 3D Printing

Through the combination of varying technologies and techniques we can create a more immersive experience of existing locations and discoveries. Via 3D printing we can recreate old foundations and buildings that are no longer accessible. Combined with the added abilities of Augmented Reality users can be placed "into" these environments exploring not only tactically but visually. Through the use of these new technologies we hope to energize a younger audience into exploring and participating in the history hidden below their feet.

DeMuth, George B. (Sandusky Bay Chapter)

Metz Transitional Ware, the Challenge and Technology

Ceramics at the Metz site offer new insight to what has been described as Sandusky Tradition ceramics in Northern Ohio. The study and assessment of ceramic collections from sites in the Huron and Sandusky River

Valleys have revealed construction methods unlike those methods signifying earlier Leimbach Wares. These morphologic characteristics as well as other decorative techniques signify an in situ indigenous population. This report reveals the technological and morphological changes to ceramic forms which were observed in the ceramic assemblages at the Metz site (33ER557) and other sites in North Central Ohio. This ongoing, expanding study adds a new understanding of ceramics in Ohio.

Dworsky, Joel (AECOM)

That Sinking Feeling: The Fortuitous Discovery of an 18th Century Privy in Germantown Philadelphia

In June of 2016 AECOM was brought in to monitor the repair of a sinkhole at the Wyck House in Germantown, Philadelphia. During the course of this monitoring effort, AECOM archaeologists uncovered a beautifully preserved stone privy. The discovery of this feature offers the potential to glean new information about the settlement of the Wyck property and the Germantown neighborhood at large.

Eichinger, Daniel (AECOM)

Built Like a Brick Outhouse

At the Gunnar's Run (36PH162) site and adjacent city blocks in the Fishtown section of Philadelphia, the URS archaeological team has excavated over 350 historic privies. Three methods of privy construction were encountered; buried barrels, boxes, and brick-lined shafts. But basic shape aside, what are the differences between each of these techniques? And what did the historic glass workers of Kensington-Fishtown deposit into these backyard bathrooms (outside of the obvious)? What follows is a broad comparison of city crappers.

Farley, William A. (University of Connecticut)

Historical Trajectories and the Prehistory/History Dichotomy: A Critical Analysis

In this paper I seek to explore, historicize, and critique the last quarter century of the archaeology of the prehistory/history divide. In the 1990s and 2000s Pauketat, Silliman, Lightfoot and others began calling for the disassembly of what they termed an arbitrary break in native history. Here I hope to assess whether archaeologists have substantively achieved that goal. Finally, I discuss the relevance (or lack thereof) of these categories to the achievement of collaborative and indigenous archaeologies.

Fritz, Brian L. (Quemahoning, LLC)

Digging into Quarry Sites: Theoretical Approaches and New Analytical Methods for Understanding Mined Landscapes.

Prehistoric lithic quarry sites often contain large quantities of broken and fractured rock fragments that generally lack morphological attributes commonly used for lithic debitage analysis. Quarry pits often converge to form large-scale cultural features that are complex and difficult to understand. Proposed is a new theoretical approach to understanding quarry site development that takes into account both cultural factors and geological factors. Included is a quarry site classification model and new methods for analyzing large quantities of quarry debris.

Gall, Michael J. (RGA, Inc.) and **William Liebeknecht** (Dovetail Cultural Resource Group)

Archaeology of Slavery in Delaware: New Insights from a Northern State

Since the new millennium, archaeologists have increasingly focused on better understanding the material manifestations of slavery and the African American experience of enslavement in the upper Mid-Atlantic and Northeast regions. Recent excavations at the Cedar Creek Road Site and the Rumsey/Polk Tenant/Prehistoric Site in Delaware, along with a re-examination of several Delaware archaeological assemblages, elucidate aspects of slavery in this northern state. The data also provides crucial insight to disparate African, African-Caribbean and African American cultural and religious practices, racial disenfranchisement, power hierarchies, and strategies slaves employed to mitigate the harsh realities of enslavement in Delaware. Examined site assemblages and documents also present clues on artifact and feature patterning that may be used to identify and interpret slave life in Delaware during the colonial and antebellum periods.

Gingerich, Joseph A.M. (Ohio University; Smithsonian Institution NMNH)

Pleistocene Depositional Patterns and their possible link to Paleoindian Settlement Patterns in the Middle Atlantic Region, USA

Before, during, and after the Younger Dryas interval, we see differences in depositional patterns throughout the Middle Atlantic Region of the United States. In this paper we explore both differences and similarities in alluvial and eolian deposition within the Middle Atlantic Coastal Plain, Piedmont, and Ridge and Valley physiographic provinces of eastern North America. Using select case studies in Virginia and Pennsylvania, we explore what role, if any, varying landscape stability played in the settlement or use of river valleys by human populations during the Late Pleistocene and Early Holocene.

Gramly, R. Michael (ASAA)

The Bull Brook Phase: Definition and Important Massachusetts Sites

Both absolute chronology and certain artifact types indicate that the Bull Brook Phase belongs at the end of the long-lived Clovis Tradition; whereas, formerly it was believed to be one of the oldest fluted point manifestations in New England. Band aggregation habitation sites such as Sugarloaf and Bull Brook suggest that Palaeo-American population had grown considerably since the time of human entry into the Northeast. It is perhaps no coincidence that the disappearance of proboscideans occurs during the Bull Brook Phase.

Grossman-Bailey, Ilene (RGA, Inc./Archaeological Society of NJ)

Shellfish Foraging in Coastal New Jersey

Over 100 known shell sites have been documented along the Atlantic and Delaware Bay coasts of New Jersey. Although few people eat oysters from New Jersey now, our brackish bays and rivers were once major sources of shellfish. This paper presents an overview of over 100 years of study of shell midden or shell matrix sites and case studies from recently excavated sites in New Jersey. How these sites contribute to an understanding of prehistoric foodways, gendered food procurement strategies, and implications for social networks, seasonality, and symbolic meaning in Woodland period New Jersey is also discussed.

Harrington, Lucy (Mercyhurst University)

Use and Maintenance of Bifaces and Unifaces in Pennsylvania from Paleoindian to Middle Archaic Times

Previous studies have concluded that Archaic peoples in Pennsylvania were less mobile than their Paleoindian predecessors. One form of evidence supporting this argument is the extensive maintenance of bifaces and unifaces in Paleoindian times that does not persist into the Middle Archaic. Production of tools designed for long-term use and maintenance is associated with highly mobile groups where maximizing tool use-life reduces transport cost. This study reports on the examination of changes in biface and uniface resharpening using Andrefsky's Hafted Biface Retouch Index (2006) and Kuhn's geometric index for the reduction of unifaces (1990) in an effort to examine the relationship between changing levels of maintenance and mobility over time. The artifacts analyzed in this study are from 14 lithic assemblages previously excavated from well stratified sites in Pennsylvania dating from the Paleoindian to Middle Archaic periods.

Henshaw, Marc (Michael Baker International)

Riding the Lightning: An Examination of the Waynesburg And Blacksville Street Railway Company in Green County, Pennsylvania.

This paper presents an account of a lost chapter of industrialization and transportation history in southwestern Pennsylvania, as a result of field investigations conducted in 2016 by the cultural resources section of Michael Baker International, on behalf of the Pennsylvania Department of Transportation (Engineering District 12-0), Cook Avenue Bridge Replacement Project in Waynesburg, Pennsylvania. The efforts of the archaeological team revealed an unassuming embankment along Smith Creek to be the remnants of the Waynesburg and Blacksville Electric Railway. Together with its associated structures, thoroughfares, and bridges, the forgotten rail way highlights a time in the early 20th century when electric public transportation was in its hay-day. The spider web of track, switches, bridges, stations, and depots linked the industrial hubs of southwestern Pennsylvania connecting workers with mines and mills while the public traveled to urban markets. The electric railways that connected the towns were considered cutting edge and technologically advanced modes of transportation that echo modern calls for to meet mass transit needs. The remnants of these historic networks are scattered throughout the woods and stream valleys of the region. Bridges, embankments, rail beds, and cuts represent the sparse remains of this vast network hidden by trees and underbrush. This paper documents the Waynesburg and

Blacksville Electric Railway by using a combination of methods and technology such as LIDAR imaging. It also examines other railways in the area, specifically the West Penn railway which ran over 339 miles of track through western, Pennsylvania. These two rail lines represent a sample of transportation before car ownership and economic decline made these systems obsolete.

Hoffman, Curtiss (Bridgewater State University)

Science, Pseudoscience, and Scientism: The Stone Structures Controversy

For many years, the study of stone structures in Northeastern North America has been relegated to the fringes of archaeology. There is a good deal of antagonism between the antiquarian community who express interest in these structures for a number of reasons on the one hand, and the professional community who consider all or most of them to be the work of colonial post-Contact farmers clearing their fields. This antagonism results in reciprocal accusations on both sides: some antiquarians charging that the archaeologists are allowing the structures to be destroyed without study, or even repressing evidence, while some archaeologists claim that anyone who shows an interest in these sites is practicing non-archaeology. More recently, Native communities have also become involved in the controversy, claiming these structures as their own sacred sites. This claim has been disputed by both of the prior antagonists, with some antiquarians claiming that they are rather the work of pre-Columbian transoceanic voyagers and some archaeologists claiming that the Native position is merely political grandstanding. However, a number of archaeologists and antiquarians have begun working together with Native groups to ensure the preservation of these sites, on the presumption that, whoever built them, they are part of the built environment and therefore ought to be protected along with standing structures and buried pre-European sites. This position has gained ground more among the antiquarian community than among professionals, some of whom persist in labeling any interest in these structures as “pseudoscience” and “not even anthropology.” For the past 4 years, the author has undertaken a comprehensive inventory of sites containing stone structures across the eastern seaboard of the U.S. and Canada, amassing a database of over 5,100 sites and over 35,000 individual structures. He will show that science - including quantitative hypothesis testing - can indeed be done on the distribution of these sites, and that claims to the contrary should be considered as scientism - the religion of science.

Homsey-Messer, Lara and William Chadwick (Indiana University of Pennsylvania)

Preliminary Results of the 2016 Field Season at the Squirrel Hill Site (36Wm0035)

In partnership with the Archaeological Conservancy, Indiana University of Pennsylvania held its 2016 Field School at the Squirrel Hill site (36Wm0035), a Johnston-Phase Monongahela village located in Westmoreland County, Pennsylvania, on a terrace of the Conemaugh River. Although listed on the National Register, previous systematic investigation is limited. With the exception of a small geophysical survey in 2013, most work at the site dates to the early 1950s by amateur archaeologists. Many questions remain to be answered, including verifying tentative cultural affiliations and site boundaries; characterizing the internal arrangement of houses, plaza, and stockades; and contextualizing its relationship with other regional sites. This paper presents preliminary results of the 2016 field season, which included test unit excavation, shovel testing, a GPR survey, and geomorphic coring. Initial findings suggest that there may be more than one occupation at the site and that the prehistoric landscape was more dynamic than previously thought.

Hranicky, Wm Jack (Archeological Society of Virginia)

Jasper Usage in the Paleo-Era of the Shenandoah Valley

This paper discusses jasper blade and biface technology in the Shenandoah River valley of Virginia. With the Thunderbird Paleoindian site excavation in the 1970s as a basis, artifacts of both technologies are illustrated. This paper is based on the re-examination of the Thunderbird excavated artifacts. While this early excavation provided proof of Clovis technology, numerous artifacts were recovered that are outside the standard Clovis toolkit suggesting other flintknapping people at the Thunderbird area who were using jasper. This is based on a long prismatic blade which is argued as pre-Clovis due to its manufacture. A Miller point in the Thunderbird excavated material suggests a 16,000 YBP date for the valley. And, a 175 mm jasper knife suggests an ivory billet was used in its manufacture. The newly-discovered Higgins site in Clarke County has a pure jasper blade technology and examples are illustrated and discussed. All these recovered artifacts are used to argue a new paleo-chronology and megafauna hunting for the upper Shenandoah Valley of Virginia.

Hrynck, Gabriel and W. Jesse Webb (University of New Brunswick)

The Devil's Head Site and the Late Maritime Woodland to Protohistoric Transition in Maine's Quoddy Region

The Devil's Head site, located along the St. Croix River in Maine, contains spatially discrete later Late Maritime Woodland (950 – 500 BP) and Protohistoric (550 – 350 BP) components along ca. 150 m of shoreline. As a result, it offers an opportunity to examine changing Indigenous lifeways within a single environment at the earliest periods of European contact in the Northeast. Devil's Head suggests continuity in technology from the end of the Maritime Woodland to the Protohistoric periods alongside subtle changes in site structure, settlement, seasonality, and interaction.

Israel, Stephen (The School in Rose Valley)

Archaeology's Contribution to the School in Rose Valley.

At a 2014 elementary school reunion, the Head of School and two parents asked me to undertake an archaeological field project to expand the Experimental School in Rose Valley's (SRV) Middle Group's 3rd and 4th grades, class room archaeology lessons. Following interviews with local historians, historic maps, and photographs of Rose Valley Borough, Delaware County, Pennsylvania; Two one-half day surveys were undertaken at two historic sites within the Rose Valley National Register Historic District. The first field survey was at the Gate House Ruin in 2014 and the second at the SRV's First Campus, now a private residence in 2015. This paper will share the field survey strategy, what was found and what was learned. The archaeology contribution includes student write ups about their two hour excavation experiences. Future plans include exposing a brick playhouse foundation at the SRV First Campus and surveying two Wildlife Sanctuary's on Ridley Creek for subsequent SRV exploratory excavations.

Janowitz, Meta and Rebecca L. White (AECOM)

The Remmays of Philadelphia, Stoneware Potters of Renown

Members of the Remmey family have been potters since at least the 16th century in Europe. One of the members of the family came to New York in the early 18th century where he established himself as a maker of salt glazed stoneware and founded a family. Members of the family eventually found their way to Philadelphia where they worked from the 1830s until the early 20th century. The stoneware waster deposit found at the Cramp site, part of the I-95 project in Philadelphia, shows the vessel forms produced and the kiln furniture used during the last quarter of the 19th century when the Remmays were beginning to expand their range of production from exclusively domestic wares to industrial ceramics.

Johnson, Janet (The State Museum of Pennsylvania)

Effigies of the Susquehannock

The Susquehannock Indians who lived in the Lower Susquehanna River from about 1575 AD to 1763 are often identified with distinct attributes of ceramic production. Their ceramics have been examined and classified by several archaeologists in developing a typology of Susquehannock pottery attributes. The Washington Boro phase of the Susquehannock sequence which dates from approximately 1610-1630 AD exhibits the greatest number of effigy symbols. Researchers have examined the patterns and placement of effigies on pottery as an expression of social change or acculturation. This presentation will focus on the complexity of these design elements, examining patterns for indicators of individuality or replication across multiple Susquehannock sites.

Jones, Brian D. (Connecticut Office of State Archaeology)

Discussant in *Paleoindian Peoples and Landscapes of the Northeast*

Katz, Gregory (Senior Archaeologist Heritage Resources, Louis Berger)

Landscapes of Lithic Extraction and Small Scale Lithic Economies: The View from Penns Creek, Snyder County, PA.

This paper examines prehistoric chert quarrying and lithic utilization patterns in Snyder County, Pennsylvania. Prehistoric societies in the Middle Atlantic used a variety of lithic raw materials for the manufacture of artifacts, and these patterns were dynamic over time. Snyder County is an area rich in chert sources, albeit middling-quality material. In a study of the lithic resources, we documented a landscape of extraction in the county, with extensive rather than intensive chert exploitation. A total of 25 sources of chert were identified and characterized geologically and geochemically (NAA, XRF, thin-section petrography). Penns Creek Chert was found to be a distinctive raw material, able to be differentiated from other Shriver Chert outcrops in the state. It is

posited that baseline studies such as this are needed in order to characterize raw material economies on the state and local scales, and that this work can help illuminate prehistoric social change.

Kitchel, Nathaniel (University of Wyoming)

Have Rocks, Will Travel: Patterns of Lithic Raw Material Use During the Fluted Point Period of Northern New England

Tool stone acquisition and discard from 21 fluted point sites throughout New England and southern Quebec was studied using visual and XRF geochemical sourcing methods. Patterns of lithic raw material use demonstrate that tool stone procurement activities were highly patterned among these early groups, with certain materials appearing commonly in fluted point assemblages while other materials were virtually ignored. Some raw materials were frequently transported over large distances while other ostensibly less desirable stone was used only adjacent to its source location. Taken together these patterns demonstrate that these groups were engaged in a highly patterned, wide ranging landscape use network, rather than an opportunistic or geographically restricted movement pattern as has been suggested for such early populations.

Lattanzi, Gregory D. (Bureau of Archaeology, New Jersey State Museum)

Geochemical Analysis of Mica Source Specimens and Artifacts from the Abbott Farm National Historic Landmark (28-Me-1)

The Abbott Farm National Historic Landmark is one of the more significant Woodland period sites in the Northeast. Numerous Hopewellian cultural traits (copper artifacts, cremated burials, exotic cherts, and mica) have been identified at the site. Numerous potential geological sources for the mica artifacts exist in the Mid-Atlantic region. We explore two analytical methods to evaluate the most-likely geological sources of the mica artifacts. Source and artifact specimens were analyzed using pXRF as well as neutron activation. Our pXRF data are suggestive, but show high analytical uncertainty. We make several recommendations relevant to future attempts that would use this kind of instrument to study sheet mica. Our neutron activation results are promising, and suggest that geochemical sourcing of mica has much potential. Results of both assays suggest that most of the artifact specimens recovered from the Abbott Farm share a similar chemistry, and this composition is very similar to mica from southeastern Pennsylvania. A cut-and-drilled pendant exhibits a chemical makeup distinctly different from all other artifacts and source specimens evaluated here. The application of modern analytical methods to extant archaeological collections has the potential to provide significant new information.

Lemke, Ashley K. (University of Texas at Arlington) and **John M. O'Shea** (University of Michigan)

Seasons of Change: An Investigation of Late Paleoindian Mobility and Interaction on a Submerged Landscape

Water level fluctuations have significantly impacted the prehistoric Great Lakes landscape. At the end of the Pleistocene in Lake Huron, a drastically low water stand, Lake Stanley, exposed over 250,000 hectares of land for plant, animal, and human occupation. Recent archaeological research in Lake Huron on this now submerged landform has documented over 60 stone built caribou hunting structures and sites. The research has also generated a wealth of environmental data which indicates that this submerged, early Holocene landscape provided a refugium for Pleistocene adapted plants and animals, as well as Paleoindian lifeways. Given the benefit of underwater preservation, seasonal patterns of caribou hunting, group mobility, and interaction can be reconstructed. Groups aggregated in the spring for communal hunting, and dispersed into smaller groups in the fall. Underwater investigations can provide a unique window into Paleoindian lifeways that can be linked with contemporary terrestrial archaeological records.

Lewis, Thomas (CHRS, Inc)

The Procurement of Quartz as a Tool Stone

Quartz is the second most abundant mineral in the earth's continental crust after the mineral feldspar. Because of this fact, archaeologists routinely believe that Native Americans were able to procure this stone with relative ease. Based on a combination of archaeological and geological research, it appears that the procurement of quartz was not a random- event, but rather an organized task, targeting geologic exposures which afforded good quality material in terms of composition, form, and quantity. The source of the quartz appears to follow the contact zone between the Paleozoic metamorphic rocks and the Mesozoic sedimentary rocks of the Piedmont. The Chickies formation—the primary suspected source of quartz—is aligned in narrow bands following the contact zone through limited portions of Bucks, Montgomery, Chester, Lancaster and York Counties. This paper will

explore the archaeological and geological inferences for Pre-Contact quartz procurement within the Piedmont Physiographical Province of Pennsylvania.

Liebeknecht, William (Dovetail Cultural Resource Group)

Hillegas Red-bodied Eathenware: Origin, Distribution and Evolution

Red-bodied earthenwares dating to the late 17th and 18th centuries are considered to be one of the most elusive ceramics types to comprehend. These utilitarian wares comprise of upwards of 85 percent of many ceramic assemblages recovered from domestic sites. Turnbaugh segregates sub-variety as a special category reserved for those sherds that can be assigned to a particular provenience or manufacturer. This category relies on specific attributes plus historical documentation and kiln assemblages to identify sub-varieties within red-bodied earthenware varieties. Sherds from the Hillegas Brothers waster dumps dating from the late 1720s to circa 1746 in Philadelphia represent a rare sub-variety and an opportunity to segregate and categorize these distinctive wares. The red-bodied earthenwares produced by the Hillegas brothers and their German tradition have been lost or lumped in with Philadelphia wares of the English tradition and have thus gone largely unrecognized in the Middle Atlantic region. These wares have also been lumped in with the later Moravian wares made in the areas around Bethlehem, Pennsylvania, and Bethabara, North Carolina. By lumping wares produced by the Hillegas brothers into the later Moravian traditions the beginning date range assigned to archaeological sites can be off by several years and even decades. The cultural/ethnic affiliations may also be misconstrued. This paper will examine the origins, the known distribution and the evolution of this ware-type.

Lothrop, Jonathan C. (New York State Museum); **Mike Beardsley** (NYS Archaeological Association); **Mark Clymer** (NYS Archaeological Association); **Joseph Diamond** (SUNY New Paltz); **Philip LaPorta** (LaPorta Geological Consultants, LLC); **Meredith H. Younge** (New York State Museum); **Susan Winchell-Sweeney** (New York State Museum)

Paleoindian Landscapes in Southeastern and Central New York

In 1957 and 1965, William A. Ritchie published data on geographic distributions of Paleoindian sites and points recorded for the New York region. Five discrete clusters of sites and fluted bifaces were apparent, variously associated with glaciated landscapes or bedrock lithic sources. Since 2009, as part of the New York Paleoindian Database Project (NYPID), NYSM researchers and colleagues have been working with individuals and institutions to further document Paleoindian sites and points across the state. Our current research, focused on southeastern and central New York, substantiates the two Paleoindian site/point clusters recorded by Ritchie in these areas. Documenting settlement during the late Pleistocene and early Holocene, these site/point clusters are associated with former proglacial lake beds in the Wallkill Valley and the Ontario Lowland, respectively. Expanding data sets on the distribution, chronology, technology, and lithic raw materials of these Paleoindian point/site clusters shed new light on the distinctive histories of early human occupation in these two regions.

Lowery, Darrin (Chesapeake Watershed Archaeological Research Foundation; Smithsonian Institution)

Paleoindian Lifestyles of the Delmarva Coastal Plain: A Deviation from the Normal

Recent research indicates that Paleoindian settlements were focused near the developing Chesapeake Bay circa 13,000 years ago. Though data are currently lacking, these focused settlements, which are located near the mouth of the modern bay, imply that estuarine resources may have been of importance during this early period. Excavations and stone tool analyses at a Clovis-era site (44NH233) indicate the possibility of birch bark canoe manufacture. The movement of piedmont-based exotic lithic materials into the coastal plain is extremely limited. Secondary lithic materials, as well as primary coastal plain lithic resources dominate tool assemblages. Collectively, the regional data imply relatively restricted movement patterns, which are analogous to later periods in prehistory. The geoarchaeological record indicates periods of upland erosion augmented by aeolian deposition. All of these topics will be discussed in the summary presentation.

Marks, Rachael (West Chester University)

Archaeology at the Allee House (poster)

The Allee House is located on the Delaware Bay in the Bombay Hook National Wildlife Refuge. It was erected in 1753 by John Allee, the son of a French refugee escaping punishment for practicing Calvinism. The house was sold to the US Government in 1962 after ownership through three families. It has been on the National Register of Historic Places since 1971. Archaeological research has recently been undertaken at the site to fulfill Federal Section 101 requirements due to structural renovations being done on the house by the National Historic

Preservation Training Program. Test excavations have been conducted around the house foundation and the immediate yard areas were shovel test pit surveyed. This fieldwork yielded almost 4,000 artifacts, the analysis of which is the focus of this presentation. Mean Ceramic Dates reveal two locations along the foundation that indicate structural modifications probably conducted on the house in the late 18th century. Implementing South's functional analysis of artifacts also indicates spatial and temporal differences in yard area usage. Work is currently ongoing to record the artifacts into ReDiscovery, a collections and field management software system.

McAvoy, Joseph M. and Lynn D. (Nottoway River Survey)

Clovis Settlement of the Virginia Eastern Piedmont and Coastal Plain: The View from Little Rocky Creek

In 1976, Ben C. McCary in his eighteenth fluted point survey report observed that in eastern Virginia areas south of the James River had produced hundreds of Clovis points, several small Clovis quarry sites, and one large quarry-related Clovis base camp (Williamson) while areas north of the river had produced much lower numbers of points. A primary reason for this difference was thought to be the presence of high quality tool stone only in areas to the south. However, the discovery in 2004 of a large quarry-related base camp (Little Rocky Creek) north of the James River has provided a new perspective on Clovis settlement throughout this area.

McNett, Charles (American University)

More Information About the Popes Creek (18CH74) Burial Mound

The two large shell burial mounds at Popes Creek in Maryland along the Potomac River were destroyed more than a century ago. But they were described by archaeologists from the Smithsonian at the time. And the artifacts remain there and have been photographed and are now available on the Internet. Those, and the results of 100 years of archaeology since, allow us to take a new look at this culture.

Miller, James and Eden VanTries (Indiana University of Pennsylvania)

Comparison of Archaeological Methods at Fort Necessity National Battlefield (poster)

On July 3, 1754, 21-year old George Washington was defeated by the French at Fort Necessity. This battle raised tensions between the French and British and eventually led to the French and Indian War. Today the site is administered by the National Park Service. Indiana University of Pennsylvania (IUP) began working at Fort Necessity in 2015 and has employed multiple field techniques including geophysical surveys, excavation units, test pits, and metal detecting to locate archaeological remains in the vicinity of the fort. In 2015 IUP conducted a ground penetrating radar, gradiometer, and resistivity survey, and in 2016 field season the anomalies were tested with excavation units. This work was supplemented with a limited test pit survey. The 2016 field season also included an AMDA-led metal detecting survey. This poster analyzes the various methodologies used at Fort Necessity, and compares and contrasts the results of these methods.

Moeller, Roger (Archaeological Services)

A Return to the Templeton Paleo-Indian Site After 40 Years

The Templeton site (6LF21) located on the floodplain of the Shepaug River in Washington, Connecticut, was first excavated in 1977. This revealed a 43 m² deeply buried Paleo-Indian component with more than 7400 artifacts (e.g., fluted point, channel flakes, medial thinning flakes, graters, graving spurs, utilized and retouched flakes, miniature points, endscrapers, sidescrapers, spokeshave, drill, miniature points, split cobbles, cores, and a hammerstone). Identified charcoal included red oak, juniper, or white cedar. Calcined bone fragments have not been identified. Zachary Singer has resumed the analysis and excavation revealing exciting new data and interpretations. His research has shown the importance of saving a portion of a site for future excavation and of returning to a very well curated collection with new technology and perspectives.

Moran, Mallory (The College of William & Mary)

"In the Main Their Course is Kept:" Indigenous Travel Networks in Maine and New Brunswick Across the Historical Divide

The indigenous people of northeastern North America utilized the river systems of the continent to form an extensive network of travel and communication. In Maine and New Brunswick, waterways and portages remained the primary routes of travel and trade from prehistory until well into the historic period. While the riverine system offered the opportunity for local and long-distance connections between communities, the

environmental dynamics of the system presented challenges for travelers who passed throughout the network. Successful navigation of these waterways and portages required specialized knowledge and technology, which together formed a repertoire of movement skills. This paper draws upon archaeological and documentary sources to explore how indigenous ways of moving through the Northeast persisted and transformed across the prehistoric-historic divide.

Murtha, Tim (Penn State University)

Sourcing and Studying the Source: Bald Eagle Jasper Quarries and the Houserville Habitation Complex

Relying on excavated material from site the Tudek Quarry (36CE238) and the Houserville habitation complex in Centre County, Pennsylvania, we describe and analyze the spatial and temporal dynamics of the extraction and production of lithic material from this prospect site. In previous studies, we emphasized a technological approach towards studying these materials. In this paper we revisit and review the sourcing studies that accompanied artifact analysis, along with spatial analysis of artifact distribution and radiocarbon dates.

Mydlowski, Evan, Richard Veit, and Sean McHugh (Monmouth University)

Revisiting the Turkey Swamp Site

The Turkey Swamp Site in Freehold, Monmouth County, New Jersey was first identified by avocational archaeologist Douglas England in the 1960s. From 1974 To 1980 It was the site of archaeological field schools conducted by Monmouth and Rutgers Universities under the director of John Cavallo. Cavallo and colleagues identified a rich site with deposits reflecting almost the entire span of regional prehistory, from the Paleo-Indian period to the Contact period. Monmouth University's 2015 archaeological field school revisited the site of Cavallo's original excavations and using a predictive model developed by Sean McHugh, tested three additional areas in the park. Two of the three areas tested contained prehistoric deposits, and one proved to be the site of a large, rich site dating from the Late Archaic and Early Woodland periods. Excavation at these sites is providing valuable new data about settlement patterns and lifeways in prehistoric New Jersey.

Nass, Jr., John P. (California University of Pennsylvania)

The Emergence of Social Complexity during the Late Prehistoric Period: An Example from Western Pennsylvania.

Evidence for emerging socio-political complexity can take several forms, such as changes in regional settlement patterns, mortuary treatment, and the emergence of craft specialization/production. Within the Upper Ohio River Valley that includes Southwestern Pennsylvania, excavations at post AD 1400 Late Prehistoric village sites west of the Somerset Plateau and belonging to the Monongahela Tradition have revealed changes in mortuary treatment, the addition of a new artifact type the bowl, the identification of a new ceramic horizon marker, and the addition of a new form of architecture, the pedal house. The intent of this paper is to demonstrate that the occurrence of these three at post AD 1400 village sites signals a fundamental change in the socio-political landscape resulting from an increasing need for group identity and political cohesion.

Ort, Jennifer (University of Maine) and **Brian Robinson** (University of Maine)

Guess Who's Coming to Dinner: An Exploration of Lithic Tools and Sources at the Bull Brook Paleoindian Site, Ipswich, Massachusetts

The Bull Brook Site in Ipswich, Massachusetts is one of the largest and seemingly most spatially organized Paleoindian sites in North America. The intra-site activity patterning of flaked stone tools helped us to distinguish the site as a large aggregation of inhabitants, as opposed to small occupations taking place over time. The strong pattern of interior and exterior activity differences, or concentric rings of activity, are difficult to explain except by an organized social event. Who then occupied Bull Brook and are different regional groups represented? Analysis of artifact types and lithic materials, together with continued spatial analysis could reveal subtle patterns of rationality. We attempt this question by utilizing the metric attributes of both fluted points and end scrapers and variations in lithic material types as means to identify regional group affiliations.

Pickard, Samuel (AECOM)

Portraits of Life in the River Wards: Histories of Fishtown and Port Richmond

The Kensington/Fishtown and Port Richmond neighborhoods of Philadelphia were among the earliest areas in the city settled by Europeans. Initially dominated by maritime trades, in the nineteenth century they developed into industrial districts centered on mills, shipyards, and the export of coal and grain. For the most part,

they became known as a rough working class areas with populace comprised mainly of Irish, German, and Polish immigrants, though Fishtown remained a somewhat isolated. This small waterfront area endured for some time as a pocket of nativist fishermen, shipbuilders, and glassworkers. This paper will discuss the history of these areas from the early nineteenth century to the beginning of the twentieth century, with a focus on the blocks on which AECOM conducted excavations. It will seek to shed light on this area and its residents, who are all too often stereotyped or overlooked in the history of Philadelphia.

Raber, Paul A. (Heberling Associates, Inc.)

The Exploitation of Quartzite in the Lower Juniata and Susquehanna Valleys: Outcrops and Cobble Sources

Studies at 36Ju104 on the Juniata River and 36Da159 on Susquehanna River allow a comparison of the use of (ortho) quartzite outcrops and river cobble sources. Travelers through the Lewistown Narrows camped at 36Ju104 for over 8000 years and used Tuscarora quartzite from nearby outcrops mainly for expedient tools. At 36Da159 the inhabitants used easily obtainable stream cobbles of Tuscarora quartzite for both formal and expedient tools, although outcrops occur nearby. Quartzite use through time at the two sites is compared to examine variation in why and how quartzite was used.

Rankin, Jennifer (Temple University; AECOM) and **R. Michael Stewart** (Temple University; New Jersey Historic Preservation Office)

The Snyder Complex and Paleoindian Archaeology in the Delaware Valley

The Snyder Site Complex consists of multicomponent prehistoric localities at Carpentersville, New Jersey, situated on a series of terraces adjacent to the Delaware River. The Paleoindian components of the complex, along with relatively few others in the Delaware Valley, stand out because of the extensive landscapes involved, the number of fluted bifaces that can be associated with occupations, and the fact that it is revisited throughout the Paleoindian period. Research that has been completed at the complex is summarized, placing it in the context of Paleoindian studies in the Delaware Valley. Factors that may have influenced the repeated use of complex landscapes are considered including: the ecology and resource potential of the environmental setting; proximity to sources of chert and jasper toolstone; its role as a potential gathering place, a location convenient to the territories of a number of Paleoindian bands, where exchanges of information, trade, and socializing could take place; and its positioning along what may be a travel route linking the Delaware Valley and Middle Atlantic Region with Paleoindian territories of the greater Northeast. Site complexes like Snyder, spread over large areas, emphasize the importance of a landscape perspective when identifying and interpreting archaeological deposits. Had not large areas been examined over extended periods of time, the significance of the Snyder Complex and its relationship with other Paleoindian localities would not have been recognized.

Reamer, Justin M. (University of Pennsylvania)

Monumentalizing the Northeast: A Proposal for the Archaeological Study of Indigenous Stone and Brush Heaps

Discussions of monumental architecture are largely missing from the literature of Native American archaeology in the Northeastern United States and Canada. But, I argue that one form of monumental architecture does exist in the form of stone and brush cairns constructed by the indigenous Algonquin speaking tribes of the region. Unfortunately, these structures are not included in the literature on monumentality because they have often been neglected by the archaeologists working in the region. Using ethnographic, ethnohistorical and archaeological records, I will argue that these stone and brush heaps have archaeological significance as monuments because of the meaning imbued in them. While I recognize the problems and concerns other archaeologists have raised with regards to these features, I will argue that the stone and brush heaps of the Northeast should receive further examination by archaeologists and propose a method for doing so that assuages some of these concerns.

Robinson, Francis “Jess” (Vermont Division for Historic Preservation)

Paleoindian Settlement and Movement Along the Champlain Sea

Newly identified sites and collaborative mapping of the Champlain Sea margins has recently enabled the author to refine his previous models of Paleoindian settlement and travel trajectories within the Champlain Basin. This paper will present a brief summary of these new sites and then discuss what the aggregate site location data, raw material usage, and projectile point forms potentially indicate about the early inhabitants of the Champlain Valley.

Rockwell, Heather (University of Wyoming)

Changes in Latitudes, Changes in Attitudes: A Perspective on Tool Use across New England and the Canadian Maritimes

Paleoindian research in the Northeast has accelerated dramatically within the last decade, with more scholars devoting attention to this understudied region. New techniques such as GPR, XRF and computer modeling have all contributed to our body of knowledge of this region. An under-utilized method of analysis is microwear studies. Determining specific tool uses beyond interpretations based upon morphology provides greater analytical ability. In particular the increase in examination of large sample sizes has allowed us to have a greater understanding of regional level behaviors. This study utilizes a dataset of more than 3000 artifacts examined for evidence of microscopic use traces from 13 different sites across the New England and Canadian Maritimes. Using a bootstrap resampling simulation to control for sample size I compared sites from different latitudes to determine if site activities are varying across the space.

Shaw, Christopher E. (University of New Brunswick)

Late Maritime Woodland and Protohistoric Lithics at Devil's Head, Calais, Maine

Patterns of lithic raw material procurement may illuminate economic and mobility changes occurring among the Wabanaki immediately before and at European contact. The Devil's Head site in Calais, Maine, contains lithic assemblages from the Late Maritime Woodland (1350-550 BP) and the Protohistoric period (550-350 BP), allowing a fairly fine scale view of changing procurement at a single site. Examining the Devil's Head site in this framework supplements the known ethnohistoric record with archaeological data in order to bridge the gap between pre- and post-contact economies. I argue that Devil's Head begins to suggest expanding spheres of interaction and trade among Wabanaki, amplifying patterns that had begun in the Late Maritime Woodland period. This intensification may have been a response to protohistoric European exchange, and may be consistent with indirect exchange in the region facilitated by Indigenous "middle men."

Singer, Zachary L. (University of Connecticut)

Sub-Regional Patterning of Paleoindian Sites with Michaud-Neponset Points in New England and the Canadian Maritimes

Sites containing a unique modal form of Paleoindian projectile points can illuminate Paleoindian behaviors associated with the exploitation of various habitats distributed throughout a landscape. This paper will consider sites with Michaud-Neponset points across New England and the Canadian Maritimes [NE/M] to examine latitudinal variation in Middle Paleoindian adaptations to habitats of the latter Younger Dryas. I will investigate whether these sites exhibit significant sub-regional variability when sites located in the southern NE/M are compared to sites in the northern and central NE/M; such variability might be expected due to latitudinal differences in the accessibility of resources such as caribou.

Speller, Jeff (University of Toronto), **Katherine Patton** (University of Toronto), and **Susan Blair** (University of New Brunswick) (*Proto-historic and Early Historic period Shellfishing in the Quoddy Region*)

After more than a century of archaeological research and excavation in the Quoddy Region, scholars are beginning to build a picture of indigenous shellfishing practices of the last 3000 years. While shell-bearing archaeological sites appear to be consistently dominated by softshelled clams, archaeologists are exploring the implications of important shifts in the composition, location, and size of shell middens over the course of this time period. Remarkably little is known, however, about proto-historic and early historic period shellfishing in the Quoddy Region. In this paper, we present preliminary results of our shellfish assemblage analysis from BgDs-25, a shell midden archaeological site in the Birch Cove region of Passamquoddy Bay, dated 270±30BP (uncalibrated). We examine intra-site patterning in shellfish remains and consider how our results compare with other early historic, proto-historic, and Late Maritime Woodland period shellfish data in the region.

Spiess, Arthur E. (Maine Historic Preservation Commission)

Discussant in *Paleoindian Peoples and Landscapes of the Northeast*

Stewart, R. Michael (Temple University & New Jersey Historic Preservation Office)

Broadening Perspectives on Regional Quarry-Related Studies

Any productive or technological activity takes place in a social context and is embedded in a history of native practices, perceptions, and use of multiple landscapes. This paper explores topics that supplement and build upon technological and cultural historical approaches to quarry research. Briefly considered are: quarries as common ground and loci of group interaction; a taskscape/landscape approach to quarry selection and history of use; color and the selection of toolstone; and the relationship between settlement patterns, landscape learning, lithic preferences, quarry selection, social memory, and changing lithic technologies.

Veit, Richard (Monmouth University)

Fraud! Rethinking the Incredible Vaux Collection of Adena Artifacts from Bridgeport, New Jersey.

William Samson Vaux, Esq. was an enthusiastic 19th century collector of minerals, artifacts, and coins. Passionately interested in the sciences, and particularly archaeology and geology, he amassed an unparalleled collection of artifacts that he later donated to the Philadelphia Academy of Natural Sciences. Included in his collection is a group of extraordinary Native American artifacts purportedly unearthed “from a mound” in Bridgeport, New Jersey. Completely unlike other artifacts found in the state, they appeared to be associated with the ancient mound building societies that thrived in the Ohio Valley. His contemporaries derided his finds as frauds. This presentation reexamines Vaux’s finds in light of current theories and understandings of Middle Atlantic prehistory. It appears that Vaux’s initial interpretation of the artifacts was likely correct; however, the presence of these unusual artifacts: pipes, ceremonial bifaces, and effigies in the Delaware Valley remains extraordinary. Do they reflect ancient trade networks, the spread of religious belief systems, a currency of exchange, or are they souvenirs brought home to the Delaware Valley by far-travelling adventurers?

Vento, Frank J. (Clarion University of Pennsylvania)

The Geologic Origins and Distribution of Tool Stone in Pennsylvania.

This paper will discuss the origin of various lithic raw materials including chert, jasper, quartzite, quartz, metarhyolite and argillite utilized by prehistoric populations in Pennsylvania and the types of analytic techniques (hand samples, thin sectioning; X-ray diffraction; X-ray fluorescence and neutron activation/REE) that are used to determine raw material provenance. Most of these analyses are time consuming, destructive and costly. Chert is the most commonly used material in Pennsylvania but also the most difficult to source. So what do we do?

Vesper, Dennis J. and Richard Michael Gramly (ASAA)

The Bowser Road Mastodon Site, Orange County, New York: Clovis Butchering Techniques and Curated Artifacts

Palaeontological and archaeological investigations of a carcass of an aged male mastodon reveal that he had been butchered intensively with the aid of an axe, hammerstones, and perhaps other implements by a Clovis group approximately 13,000 calendar years ago. Several hundred stone, bone and tusk ivory artifacts lay in direct association with the remains. Some of these artifacts represent types that are new to Palaeo-American studies, and many exhibit polish and other evidence of prolonged use and curation -- perhaps for years. Geochemical testing supports the idea that two populations of remains exist at Bowser Road – 1) the butchered mastodon himself and 2) artifacts of mastodon bone and ivory from another geochemical province (or provinces).

White, Rebecca L. (AECOM)

A Closer Look at Everyday Life

Ongoing archaeological investigations along a three-mile section of Interstate 95 through the Kensington and Port Richmond sections of Philadelphia are revealing a wide range of artifacts related to individual households. This presentation will explore some of the artifacts that provide a glimpse at details of daily life within these neighborhoods.

Wholey, Heather A., (West Chester University of Pennsylvania)

The Southeastern Pennsylvania Steatite Quarries

Quarrying was a crucial part of prehistoric American Indian technologies. Steatite was obtained mostly from bedrock outcrops for production into a variety of objects, including open vessels. Steatite quarry technology is not well understood, although evidence suggests that preforms were essentially chiseled, pried and scraped away from the outcrop. Analysis of quarry tools, manufacturing debris, and artifacts recovered from recent excavations at the Christiana Quarry Complex in Southeastern Pennsylvania, along with examination of an archived collection

recovered from the same area and replication studies indicate that early stage quarry tools were somewhat specialized. At present, there is no general model for steatite production, but regional studies suggest final stage steatite manufacturing occurred relatively close to steatite outcrops at specialized, limited duration, campsites that would have been re-occupied through time. Archaeology done around the Christiana Quarry steatite outcrops indicates a potential complex of activities related to specialized steatite craft production. This presentation offers a socio-technic perspective to steatite quarry activities in southeastern Pennsylvania.

Wiegand, Ernest A. (Norwalk Community College)

Allen's Meadows: A Paleoindian Camp in the Norwalk River Valley

The Allen's Meadows site was discovered at a community garden in Wilton, Connecticut in 1981. Surface collection of the site resulted in the recovery of a large number of artifacts attributed to a Paleoindian occupation of the site, as well as several artifacts of the Late Archaic and Early Woodland periods. The Paleoindian assemblage includes large numbers of endscrapers, as well as fluted points, bifaces, utilized flakes and wedges. The site is unusual in that the vast majority of the lithic artifacts and debitage are quartz. Shovel test pit excavations and a single block excavation were conducted outside the garden area in hopes of determining the size and boundaries of the site as well as areas that have not been disturbed by plowing. This progress report will present the results of the original surface survey and the ongoing test pit survey.

Willison, Megan (University of Connecticut)

Native Masculinities, Systems of Warfare, and Adornment: A Study of Cuprous Utilitarian and Decorative Battlefield Assemblages

This paper argues that metallic cuprous (copper and brass), lead, and iron items recovered from three archaeological contexts dating to the Pequot War (1636-1637) reflect and represent native gender identity and spirituality. One of the most iconic moments of the Pequot War was the massacre at Mystic Fort, an event which occurred on May 26, 1637 and took the lives of hundreds of Pequot men, women, and children. Immediately following the massacre, the English retreated back to their ships and were followed by returning Pequot warriors. This paper will examine the native cuprous and ferrous objects recovered along various points of engagement on the English retreat route and analyze them in relation to metallic objects recovered from Mystic Fort and a nearby small Pequot settlement. Through the comparison of artifacts recovered on the retreat route with those found in domestic settings, it can be discerned if and how the Pequot repurposed cuprous trade items and if there are discernible patterns and reasons for the creation and use of cuprous "scrap" items, such as for the creation, representation, and/or affirmation of native masculinities. This research has implications for understanding the role of metal production in domestic contexts and the significance or lack thereof of cuprous scrap metal in military settings.

Wood, Kathryn (Commonwealth Heritage Group)

Well, have I got a story for you! A Wellspring of Influence- Carter's Alley Receives a Community Well and Continues on its Path to Maturity

Carter's Alley, formerly located in the block bounded by GoForth Alley, 3rd Street, Chestnut Street, and Walnut Street, was initially converted from a passage between the back ends of properties and undeveloped land. As it was converted to a thoroughway and then to a bona fide road with storefronts and homes through the late 18th into the 19th centuries, supportive infrastructure became a necessity. To that end, the alley was fitted with a communal well sometime in the early years following the Revolution. During the excavation at the site of the Museum of the American Revolution, Commonwealth Heritage Group identified Feature 8, a well situated on the south east side of what was once Carter's Alley. According to the scant artifactual evidence left at the base of the well, it appears to date to somewhere between 1780 and 1830. This paper describes the construction of the well, focusing on the 800lb+ wooden well stock and its peculiarities, while exploring the overt and underlying influences a communal well can exert on its users.

Wosochlo, James (SPA Chapters 14 & 31) **and Jennifer Rankin** (Temple University, AECOM)

Experimental Design and Discussion for Paleoindian Endscrapers

Unifacial end- and sidescrapers are often considered a diagnostic component of Paleoindian tool assemblages. Researchers have hypothesized that scrapers served as hide working tools, but evidence in the form of experimental scientific analyses is lacking in the region. Through design by experiment this paper will discuss potential uses of Paleoindian scraping tools, not limiting the conversation to uses related to hide working. The

authors will pull from ethnographic data to describe the step-by-step process of historical hunts and the phase when scrapers could potentially have been utilized during the final stages of butchering, while also offering their own unique experience/backgrounds to set the stage for butchering/processing. The steps in processing are then replicated as part of the experimental design based on modern day moose hunting, field dressing, processing and tanning of the animal/hide. The authors will look at functional characteristics of the scrapers, including the use of spurs, hafting, form, and efficiency rates. Conclusions will demonstrate that more data will be needed for the initial experiments and will highlight future studies in microwear analyses based on samples generated by the experiment.

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