**ABSTRACTS**

**Alphabetized by lead author**

**Georgia Abrams** (Illinois State Archaeological Survey) and **Madeleine Evans** (Illinois State Archaeological Survey) "Variations within Sponemann II Phase Lithics: New Evidence from the Sponemann Site"

The Sponemann phase Late Woodland lithic assemblage recovered during 2007 and 2008 investigations that preceded improvements to Horseshoe Lake Road in Madison County, Illinois represents a small part of the Sponemann type-site assemblage. The material from recent investigations is, in general, consistent with the assemblage recovered during the FAI-270 investigations, but some aspects provide further insight into current assessments of American Bottom Intermediate Late Woodland material culture. Looking at the lithic assemblage from this component as a whole, we address a relatively low number of woodworking tools and a surprisingly high number of sandstone abraders as ways that the Sponemann site material differs from that of other Sponemann phase sites in the area.

**Michael Aiuvalasit** (Illinois State Archaeological Survey, University of Illinois at Urbana-Champaign) "A little paradox on the prairie: if anthropogenic fire came to dominate fire regimes of the eastern tallgrass prairie Peninsula ecosystem when and how did it happen and how would we know?"

Ecologists largely accept that pre-Columbian Native Americans influenced fire regimes of the eastern tallgrass prairie Peninsula. Paradoxically, archaeologists have made few contributions, whether in data or theory-building, to test this hypothesis. This presentation serves as a blueprint for investigating if, when, and why there may have been anthropogenic influences on Holocene fire regimes of the eastern tallgrass Prairie Peninsula. Preliminary observations using a combination of computational simulations of charcoal production under different fire regime scenarios, new archaeological investigations within watersheds of paleoecological localities with fire history records, and observations of charcoal production from modern fires are presented to show how archaeology may contribute to the study of the historical fire ecology of the eastern tallgrass prairies.

**Margaret E. Beck** (University of Iowa) "Red Pigment in the Midcontinent"

Red has long been a powerful color in Native North America. This poster describes my ongoing work with red slips and paints in the U.S. midcontinent (including Illinois, Iowa, Nebraska, and Kansas). I focus on regionally available raw materials and ways to assess their similarity to archaeological slips and paints. Important variables include adhesion to an underlying ceramic surface, color, and chemistry. The display features modern examples of unprocessed and processed pigments from the region.

**Erin M. Benson** (Illinois State Archaeological Survey) and **Elizabeth Watts Malouchos** (Illinois State Archaeological Survey) "Moorehead Phase Community at the Fingers South Site"

Excavations in the early 2000s at the Sauget Industrial Park (SIP) in Sauget, Illinois revealed an unprecedented late Mississippian occupation at the Fingers South Site. A suite of specialized buildings, objects, and features indicate a complex and dynamic Moorehead phase (1200-1300 CE) community within a larger farming landscape. Here, we review the most recent analyses and discuss instances of feasting and caching as they relate to community-making. The results of these investigations at Fingers South, and the broader SIP landscape, shift our understanding of the Moorehead phase in the American Bottom.

**Alleen Betzenhauser** (Illinois State Archaeological Survey) "Nixtamalization and Cahokian Cuisine"

People throughout the Mississippian world relied on maize to varying degrees, with corn comprising significant portions of diets in some cases. The fact that Mississippians generally did not suffer from severe malnutrition, suggests they nixtamalized corn by soaking dried kernels in an alkaline solution, thereby improving the nutritional quality. Recent research consisting of experimental studies, archaeometric analyses, and contextual analyses of pottery and limestone from Terminal Late Woodland (900-1050 CE) and Mississippian (1050-1400 CE) features excavated at the East St. Louis site (11S706) for an Illinois Department of Transportation project have yielded intriguing new data that indicate nixtamalization was practiced in the American Bottom as Cahokia grew to prominence. Here I explore how processing corn in this way relates to culinary and technological choices, the development of new foodways and traditions, and efforts to create and maintain community identities.

**Mark Bruhy** (Commonwealth Heritage Group, Inc.) "The Archaeology of Lake Owen: Archaic through Woodland Encampments Along the Southern Edge of the Lake Superior Basin, Bayfield County, Wisconsin"

For over a century, archaeological sites have been documented throughout northwestern Wisconsin though there remain significant gaps in the archaeological record, and no well-accepted sequence of regional pre-contact occupation. In an attempt to provide some clarification regarding these issues, investigations were conducted in Bayfield County along the shores of Lake Owen; though limited in scope, 26 pre-contact seasonal encampments were documented. The investigations yielded material culture, floral and faunal remains, and chronometric dates that suggest resource exploitation strategies associated with Archaic tradition populations. Further, Woodland tradition occupation, likely both Laurel and Blackduck, was also recognized, poorly understood in Wisconsin but well-documented to the west and north of the study area. It is argued that future investigation of these sites, within the broader context of regional research questions, offers the potential to clarify issues relative to Archaic through Woodland lifeways both along the shores of Lake Owen and throughout northwestern Wisconsin.

**Jordan Rose Buffington** (Illinois State University) "Communicating Indigenous Material Culture in Reports"

Historical archeology of Indigenous contexts gives little attention to historic metals such as iron, brass, and tin, which provide invaluable insight into the people who used them. Research often defines them as Anglo-American instead of the indigenous group's material culture. Historic metals are often displayed using South's Carolina Artifact Pattern, which South developed using only colonial Anglo-American contexts. With published reports being the main form for communicating data and information among archaeologists, the presentation of materials matters greatly. The communication of materials using a method based on Anglo-American contexts rather than cultural values removes much of the material culture specific to the group to which they belonged. This research focuses on historic Cherokee contexts and categorizes metals based on Cherokee culture, but the purpose applies to many historic Indigenous contexts. Hopefully, by presenting this research, archaeologists working with Indigenous groups will carefully consider how they are communicating materials in publications.

**Jarrod Burks** (Ohio Valley Archaeology, Inc.) "There's More than One Way to Make a Great Circle: Magnetic Survey Results from the Deer Creek Circle and the Bertsch Site"

Great Circles are a common large-earthwork type in the Middle Ohio Valley. They occur as stand-alone ditch-and-embankment enclosures or are attached to other large enclosures. This presentation explores the results of new magnetometer survey results from two sites with Great Circles: Deer Creek and Bertsch. The Deer Creek Circle, located in Ross County, Ohio, was only recently discovered in aerial photographs. In addition to confirming the enclosure, the magnetic data also reveal two possible structures and an intriguing array of large pit features. Bertsch is a well-known site in eastern Indiana with nearly three dozen small enclosures, some of which are arranged in a pattern echoing the Great Circles of southern Ohio. Though located some distance outside the main concentrations of large earthwork complexes in the region, the Bertsch site monuments show that the shift to large enclosure use and construction was realized in a variety of ways.

**Amanda J. Butler** (Minnesota State University Moorhead) "The Demands of Mississippian Mounds: A summary of mound excavations at the Collins Complex"

There is a deep tradition of earthen mound building as a practice in the North American Midwest and Southeast. Archaeologists have suggested that mounds were used to bury the dead, elevate important spaces, and symbolize cosmic relationships. However, mounds were more than this. They were, and yet are, alive/animate constructions whose existence transforms the ways in which a space is experienced. Mounds can mark special places, but also become (and sometimes appropriate) places in their own right. The repetitive/cyclical practice of building mounds and associated plazas were a defining component of a Mississippian mission and part of a larger religious bundle that established and moved a Cahokia-Mississippian religion out from Cahokia. This paper focuses on the mounds at the Collins Complex in East Central Illinois. Specifically, by acknowledging mounds as vibrant components of mission architecture and active proselytizers, it reanimates larger Mississippian geographies.

**Jon W. Carroll** (Oakland University) "Archaeology as Public Outreach: Lessons Learned during the COVID-19 Pandemic"

The 2021 archaeological field season was a great opportunity for students to return to normalcy after more than a year in isolation due to the COVID-19 pandemic. Oakland University's Past-to-Future Archaeology Partnership was developed to provide high school students access to STEM educational opportunities through archaeological fieldwork. This discussion recounts the challenges and successes of initiating a community-based service-learning program during an unprecedented moment in time.

**Robert C. Chidester** (The Mannik & Smith Group, Inc.), **Meagan Bell** (The Mannik & Smith Group, Inc.), **Ryan Botkin** (The Mannik & Smith Group, Inc.), **Adam Darkow** (The Mannik & Smith Group, Inc.), **Elizabeth Hickle** (The Mannik & Smith Group, Inc.), **Julia Joblinski** (The Mannik & Smith Group, Inc.), **Danielle Julien** (The Mannik & Smith Group, Inc.), and **Athena Zissis** (The Mannik & Smith Group, Inc.) "Mapping a Landscape of Lithic Exploitation: Pipe Creek Chert Quarries and Workshops in North-Central Ohio"

Pipe Creek chert is a high-quality lithic resource that outcrops in the Huron River Valley and adjacent upland areas of north-central Ohio. While this chert type has been formally described in the literature, one could be forgiven for thinking that it is a minor lithic type of limited regional significance. Certainly it has not received the same amount of attention as the prolific Flint Ridge chert from central Ohio, which was widely used throughout the Midwest. However, recent cultural resource management investigations in Erie, Huron, Sandusky and Seneca counties have revealed a network of extensive Pipe Creek chert quarries and workshops, many of which were previously hidden in plain site in the form of

brief Ohio Archaeological Inventory forms completed by local amateur archaeologists. Pipe Creek chert was utilized extensively by indigenous populations throughout all pre-contact chronological periods in north-central Ohio, but its use does appear to be geographically limited.

**Angela R. Collins** (University of Iowa Office of the State Archaeologist) "Aerial thermography at 13PM7"

Thermographic analysis at a Mill Creek village site (13PM7) in northwest Iowa, conducted with a FLIR DUO R thermal camera mounted on a small remote-piloted aerial drone (sUAS), revealed patterns of post holes and other pit features despite extensive fluvial erosion from the Big Sioux River and flattening of the midden mound due to agricultural practices. At site 13PM7, a multi-layered investigation included on-the-ground surface survey with limited subsurface testing and two forms of non-destructive remote testing: magnetic gradiometry and thermography. While the two forms of remote sensing were both successful in detecting similar features, additional potential pit or posthole features were depicted utilizing thermography that were not detected with gradiometric sensors. These findings support the growing applicability of thermographic remote sensing at historic and prehistoric archaeological sites, especially when combined with other remote sensing techniques, to provide another layer of information to inform archaeological investigation and interpretation.

**Jamie Countryman** (University of Chicago), **Madeleine McLeester** (Dartmouth College), **Mark Schurr** (University of Notre Dame) "Looking for Longhouses at Middle Grant Creek"

Huber phase (ca. 1450-1670 CE) sites of northeastern Illinois reflect Indigenous communities managing two unprecedented challenges - the climate change event of the Little Ice Age, and accelerating European colonization - from a critical geographic position at the juncture between the Great Lakes and Mississippi water systems. Middle Grant Creek ("MGC" 11Wi2739) is a rare extant example of a large Huber farming village of the early 17th century in the Chicago region, where 19th-20th century urban-industrial development has obscured much of the material record of the early contact period. Here we discuss our most recent investigations of household architecture, village layout, and community structure at MGC, and compare these findings with previously documented examples of late prehistoric--early historic settlements of the greater Chicago region. Unexpected characteristics of storage features and architectural remains are enriching our understanding of connectivity, mobility, and social diversity in the midcontinent during this pivotal time.

**John Creese** (North Dakota State University), **Heather Walder** (University of Wisconsin, La Crosse), and **Marvin DeFoe** (Red Cliff Tribal Historic Preservation Office) "Collaborative Indigenous Archaeology in the Northwoods: Part 1"

In the first of two papers, we provide an update on the Gete Anishinaabeg Izichigewin Community Archaeological Project (GAICAP), a collaborative undertaking of the Red Cliff Band of Lake Superior Chippewa's Tribal Historic Preservation Office (THPO) and academic archaeologists. Excavations of Archaic and Woodland occupations at Frog Bay, in particular, an aceramic Late Woodland stratified midden complex, exemplify broader "Northwoods" material culture patterns. Extensive shovel-test survey at Red Cliff Bay identified two previously undocumented late 19th-early 20th century habitation areas and a disturbed clay fill layer associated with mechanical grading before the 1924 and 1925 "Apostle Island Indian Pageants" performed there. Those significant events are within family memory for many community members. Below the "pageant fill," lithic artifacts recovered from a buried soil

horizon preserve evidence of precontact and/or early Historic Ojibwe habitation. This work fulfills THPO goals of identifying and protecting cultural resources on tribally-managed land.

**Marvin DeFoe** (Red Cliff Tribal Historic Preservation Office), **Heather Walder** (University of Wisconsin, La Crosse), and **John Creese** (North Dakota State University). "Collaborative Indigenous Archaeology in the Northwoods: Part 2" (Paper Cancelled)

**John F. Doershuk** (University of Iowa Office of the State Archaeologist) and **Stephen C. Lensink** (University of Iowa Office of the State Archaeologist) "Recent AMS Dates from a Mill Creek Village Context in Northwest Iowa"

Exploration of potential connections between northwest Iowa Mill Creek sites and Cahokia offers intriguing opportunities for understanding interactions involved with the emergence of fortified villages following corn-centered agricultural subsistence-settlement adaptations. Site 13PM7, while badly damaged by flooding, provides ready access to the exposed basal portions of dozens of large Mill Creek features which have been archaeologically documented and sampled. Numerous 13PM7 artifact and contextual studies are underway and this poster will share details of the research plan being followed and preliminary results. A suite of new AMS radiocarbon results for assays on annual plants from 13PM7 and related northwest Iowa sites contextualize emerging village lifeways and frame potential Cahokia interactions. This poster complements the thermographic analysis poster presented by A. Collins which includes magnetic gradiometry data from 13PM7.

**Andrew Domine** (St. Cloud State University) "Life of the Lumberjack: Investigation of the ca 1900 Wanaki Logging Camp Site, Cass Lake, Minnesota"

Within the Chippewa National Forest and on the shore of Cass Lake lies the ruins of the Wanaki Logging Camp. This ca 1900 camp is made visible through the impressive berms and ditches that outlined the now absent structures. This camp became the focus of the thesis work done by Andrew Domine, and with St. Cloud State University and the Chippewa National Forest, an investigation of the site took place in the summer of 2020. The study used a metal detector survey, shovel testing, and 1-meter excavation units in an attempt to identify various aspects of the loggers' identity through the archaeological remains. This study led to the recovery of artifacts pertaining to foodways, personal habits, and worker relations. The analysis looks at how the materials reflect ethnic and worker identity to better understand how those who worked and lived within the Wanaki Logging Camp.

**Brooke L. Drew** (Indiana State University/Cardno) "A Picture of Early 20th Century Mortuary Behavior through the Lens of Bethel Cemetery Burial 009: A Case Study in Exceptional Organic Preservation"

During the 2018 Bethel Cemetery Relocation Project, twenty-six concrete or metallic vaults were uncovered. Field protocol dictated these were to remain unopened until reinterment at a new cemetery location; however, the poor condition of several vaults necessitated the transfer of their contents to new containers at an off-site lab. This afforded the archaeological team a unique opportunity to document and analyze five remarkably well-preserved late 19th and early 20th century burials. This poster focuses on Burial 009, the interment of a 30-year-old woman who succumbed to tuberculosis in 1908. Preservation of organic materials (including her intact wooden casket, burial dress, shoes and even her hair) provide insights into mortuary material culture not often encountered by archaeologists working in historic cemeteries. These observations, coupled with comparisons to contemporary

undertakers' catalogs as well as archival and genealogical research, paint a fuller and more vivid picture of early 20th century mortuary behavior.

**Patrick Druggan** (Pennsylvania State University) "A Spatially Explicit Model of Maize Dispersal"

The dispersal of maize across eastern North America and the development of economies focused upon maize have long captured archaeological attention. Recent reanalysis of maize macrobotanical remains recovered from Middle Woodland sites in the Eastern Woodlands has rejected these older dates, underscoring the necessity of critically revisiting legacy dates when reconstructing maize histories across the region. Yet viewing dates in isolation limits our understanding of the regional-scale process of maize dispersal. Using a database of georeferenced directly dated maize macrobotanical remains, I present a spatially explicit model of maize dispersal which considers chronological uncertainty, the probability of recovering macrobotanical remains, and isotopic confirmation of visual identification. Such model building is necessary to clarify the role of maize in the sociopolitical evolution of the diverse cultures of the midcontinent and beyond.

**Sean Dunham**, (USDA Forest Service, Chippewa National Forest) "Historic Land Use in the Northwoods: A view from the Chippewa National Forest, Minnesota"

The USDA Forest Service uses a land classification tool called the Terrestrial Ecological Unit Inventory (TEUI). This is a system to classify ecosystem types and map ecological units at different spatial scales. The system distinguishes among land areas that differ in important ecological factor and information about ecological units are used by the Forest Service in land use planning for various uses. The TEUI system has shown promise in examining the distribution of archaeological sites on the landscape. This presentation will explore the distribution of late pre-contact and logging era archaeological sites on the Chippewa National Forest in northern Minnesota through the TEUI system.

**Richard W. Edwards IV** (University of Wisconsin-Milwaukee Cultural Resource Management) "Identifying Tradition and Identity in Oneota Cuisines"

Examining minor foods and food processing techniques can allow for inferences about social boundaries and the communities that created and consumed the cuisines. In the case of Oneota groups across Wisconsin, economically focused examinations have focused on the abundance of maize among localities, which can give the impression of a relatively homogeneous pan-regional diet. Yet, the members of each Oneota community used a distinct suite of ingredients, recipes, and techniques. This paper focuses on identifying local cuisines and their social implications.

**Katie Egan-Bruhy** (Commonwealth Heritage Group, Inc.) "Feeding the Ancestors"

Miniature pots are a relatively common component of Late Precontact archaeological sites in the Midwest. These vessels are often referred to as "toy pots, "children's pots," "seed pots," and "pinch pots." They are thought to represent either children's toys or practice vessels made by children. Alternatively, interpretations relating to their use by adults in domestic contexts include food preparation and serving and the storage of precious materials. It also has been argued that they were used for ritual purposes in mortuary contexts, as well as in the exercise of personal magic. This paper explores yet another possible function, that of "feeding the ancestors," Archyjog2considering contextual, construction, and subsistence correlates and the value of this behavior for subsistence security.

**Aaron M. Estes** (Indiana State University) and **Alex E. Badillo** (Indiana State University) "Mapping burials using SfM photogrammetry at Bethel Cemetery"

During the summer of 2018, cultural resource management professionals in collaboration with local universities excavated a nineteenth-century cemetery as part of planned infrastructure expansion by the Indianapolis International Airport. Project managers employed structure-from-motion (SfM) photogrammetry to document burial excavations in lieu of traditional methods of mapping. SfM was not only an expedient and efficient method, but it also provided project researchers the data necessary for bioarchaeological study. The photogrammetry team had recorded and digitally reconstructed 3D models of over three hundred burials. This poster summarizes the procedures for 3D mapping of burial excavations at Bethel cemetery and presents some of the benefits of using photogrammetric techniques.

**Lauren Finnigan** (University of Notre Dame) "A Database of the Material Properties of Historic Brick"

Although common in archaeological contexts, historic bricks are rarely fully studied. This paper presents a description of the material properties of bricks and masonry produced in the southern Lake Michigan/former Lake Chicago basin area during the nineteenth century. Brick samples were collected from both extant buildings and archaeological contexts over the course of four years and analyzed using visual inspection, x-ray fluorescence, and ASTM-standard compression strength testing when ex-situ samples were available. The intent of this project is to establish a comprehensive, multi-disciplinary database of historic brick properties. These data can inform historic masonry preservation or reuse and recycle projects, provide evidence of material exchange networks, and speak to the methods used by brickmakers in their craft. Results from this investigation will be made available via open-access web-accessible sites that will allow future contributions from other researchers.

**John S. Flood** (Cardno) and **Matthew D. Pike** (Cardno) "12Jn447: An Oliver Phase Farmstead in Southeast Indiana"

In early 2021, archaeologists from Cardno conducted extensive excavations at a Late Precontact site located at the Muscatatuck Urban Training Center in Jennings County, Indiana. The excavation of 12Jn447 yielded various archaeological features indicating the presence of a farmstead including storage pits, an earth oven, and a single structure. Interestingly, inhabitants of the site utilized a hybrid wall-trench and post hole technique while constructing the structure. Cardno's investigation of the site produced radiocarbon dates as well as lithic, ceramic, and faunal artifacts. Analysis of these data suggest the farmstead was associated with Indiana's Oliver Phase, a diverse group of people who prospered along the East and West forks of the White River in central and southern Indiana between 1200 and 1450 CE. This talk will focus on preliminary field and laboratory findings, while also placing this early rural farmstead in the broader sphere of Late Precontact Indiana.

**John G. Franzen** (USDA Forest Service - Retired) "Destruction of a Northern Michigan Industrial Community in 1877: the Archaeology of Fire at Bay Furnace (20AR8)"

The iron-smelting settlement of Bay Furnace existed along Lake Superior's shore from 1869 until it was destroyed by fire in 1877. Between 2016 and 2020, storms eroded a stone foundation within the town's administrative and commercial sector and exposed a burned subfloor deposit sealed beneath massive fill. A small unit excavated within this deposit recovered architecture-related items, including

nails and numerous pieces of melted window pane glass. Additional artifacts indicative of sewing, such as hook and ring clasps, buttons, and straight pins, represented a "non-industrial" activity that supported iron production. Archaeology also provided an opportunity to consider the physical effects of this fire within the broader context of the anthropocene, a controversial term proposed for a geological epoch defined by catastrophic human-caused environmental change. In accordance with ontological implications of the anthropocene concept, burned materials from Bay Furnace are deemed incompatible with dichotomous classification as exclusively "natural" or "cultural."

**Elspeth Geiger** (University of Michigan) "Domestic Fuel Economy from Northern Michigan: Trends in Procurement and Management"

Current research trends reveal that the divide between "natural" and "wild" environments is blurred. For the Anishinaabe specifically, they have a long history of intentional forest management. This management has created procurement areas where provisioning for food, materials, and fire-wood takes place. Through the analysis of charred fuel, the ecology of these procurement areas can be explored. This paper has two primary aims. Firstly, to examine domestic fuel economy from Drummond Island in northern Michigan. Secondly, to examine how the Anishinaabeg perceived, managed, and manipulated their landscape.

**Mark Groover** (Ball State University), **John Moynihan** (Ball State University), **Douglas Weinert** (Ball State University) and **Caleb Woolace** (Ball State University) "Hyland Mill: The Archaeology of a Dust Explosion?"

Hyland mill was operated on the Mississinewa River in Eaton, Indiana between the 1840s and the 1890s. Timber, corn, linseed oil and wool were processed at the mill. Hyland mill was destroyed by fire in the early 1890s and no known photographs or detailed maps exist of the mill complex. A Ball State University archaeology field school was conducted at the mill during summer 2021. Site investigations focused on reconstructing the architectural details and landscape footprint of the mill. Intact limestone foundations were identified, and the general extent of the mill complex was determined. Excavation also attempted to recover information about the fire that destroyed the mill. Mill explosions caused by combustible dust particles were a frequent occurrence from the middle 1800s to the early 1900s. Information from excavation provides interesting archaeological indicators of a possible explosion. Hyland mill was probably destroyed by a dust explosion, indicated by snapped cast iron machinery fragments, nodules of melted iron and fire altered foundation stones.

**Todd Grote** (Indiana University Southeast), **Broxton Bird** (Indiana University-Purdue University Indianapolis), **Aaron Comstock** (Indiana University East), **Benjamin Cross** (Ohio State University) "Late Prehistoric (1000-1500 CE) Mid-continental Hydroclimate Variability and the Emergence of The Fort Ancient Culture in the Middle Ohio River Valley"

Climate variability and change over multiple time scales are known to drive human behavior and cultural change. For example, several episodes of mid-continental drought have been linked to the demise of Cahokian/Mississippian settlements, which may have triggered migration and settlement in the minimally to unaffected middle Ohio River Valley. In this study we explore the impact of Mid-continental hydroclimate variability using high-resolution paleoclimate proxies, modern analogs, and geoarchaeological data. Comparing tree-ring and lake-based hydroclimate reconstructions, spanning 1000-1500 CE, within the middle Mississippi River Valley, the lower Ohio River Valley and the middle

Ohio River Valley to modern hydrologic, climatic and landscape analogs suggest that mid-continental drought (a push), and moisture surplus, flood seasonality and fertile alluvial soils (all pulls) provide a viable model for the migration and settlement of Cahokian/Mississippian people from the mid-continent into the middle Ohio River Valley, and the emergence of the Fort Ancient culture.

**Jennifer R. Haas** (University of Wisconsin-Milwaukee) "Woodland Tradition Foodways in Southeastern Wisconsin"

This paper examines Woodland Tradition foodways in southeastern Wisconsin though a multi-proxy study of plant macroremains, faunal material, and ceramics from the Finch site (47JE0902) as well as derived from existing regional archaeological datasets. Collectively, these data highlight diachronic trends of plant and animal resource procurement, processing, and consumption. The foodway data reveal Early and Middle Woodland populations as seasonally mobile foragers reliant on a variety of wild plants and animals with limited use of domestic cultigens. Although broadly similar to the Early Woodland, the Middle Woodland period is marked by an intensification of nut harvesting and a shift to hickory nuts. Late Woodland contexts have yielded evidence of domestic and tropical cultigens and correlates with a dramatic change in the use of wild animal foods. The ceramic assemblage shows distinctive changes throughout the Woodland continuum, some of which are clearly linked to changes in foodways.

**Evan Harris** (Mercyhurst University) "Orphaned Collections and The Curation Crisis in the Time of COVID-19"

The purpose of this research is to establish a chronology of excavations at Fort Le Boeuf, PA, to locate and summarize archaeological reports, and determine the locations of fort artifact collections. The resulting document provides a basis for potential future scholarship and/or excavation. Excavations were conducted at Fort Le Boeuf at various times by several entities beginning in the 1930's. This poses a significant problem while attempting to study excavation related materials as they are in disparate and sometimes unknown locations. Access to various institutions is further compounded by COVID-19 guidelines. George Washington was sent to Fort Le Boeuf in 1753 by the Governor of Virginia to inform the French they were trespassing on English soil. The events following this encounter led to the start of the French and Indian War which impacted both the New World and Europe.

**Daniel F. Harrison** (Wayne State University) "Rest in Pieces: The Inglorious End of the Freighter John N. Glidden"

The years following the American Civil War were pivotal for the Great Lakes region. The Westward Movement dramatically increased the flow of people and goods through the receding frontier and beyond. Ships encountered bottlenecks—and each other—in the confined waters of the St. Clair Flats. This freshwater delta posed hazards of narrow, twisting channels, hidden obstacles and increasing congestion. Between 1865 and 1915, some 55 vessels sank in its waters—at least 17 of them permanently. Less than half have been reliably identified. Maritime archaeologist Dr. Daniel Harrison, working with the Noble Odyssey Foundation and the U. S. Naval Sea Cadet Corps, located wreckage of a large unidentified wooden ship in 2018. Returning in 2020, they surveyed the wreckage, in hopes of establishing its identity. The logistics of COVID-19 safety protocols while conducting an underwater survey added extra complexity to an already challenging project.

**Erika Hartley** (Western Michigan University), **Tim Bober** (Western Michigan University), **Michael S. Nassaney** (Western Michigan University) "Fort St. Joseph Archaeology during the Global Pandemic"

Archaeological investigations and public outreach at Fort St. Joseph since 1998 have generated considerable public interest in the history and archaeology of this eighteenth-century mission, garrison, and trading post complex in Niles, Michigan. The Western Michigan University archaeological field school completed 15 field seasons at the site through 2019 when the field program had to be suspended due to the global pandemic. Despite this set back, staff and community partners associated with the Fort St. Joseph Archaeological Project have worked to develop creative ways to deliver public programming, including an online lecture series in the spring and summer, a walking tour of local historical sites, and the resumption of the field school and associated activities such as the archaeology summer camp program and open house. We discuss the challenges and prospects that had to be overcome to conduct Fort St. Joseph archaeology during these unprecedented times.

**William R. Iseminger** (Retired, Cahokia Mounds State Historic Site) "Researching Cahokia-Style Stone Tablets"

Currently, my search for "Cahokia-Style" stone tablets has discovered over 30 examples of whole or fragmentary specimens. The majority have cross-hatching on one or both sides, and a limited number have graphic images engraved on them, such as the iconic Cahokia Birdman Tablet. The majority come from the Cahokia region but some from as far away as Angel Mounds and Kincaid Mounds. This presentation will review the engraved stone tablets discovered thus far, their proveniences and characteristics, and their similarities and differences. Information about the location of other Mississippian tablets will be welcome.

**Kurt Kipfmueller** (University of Minnesota), **Dan Brumm** (University of Minnesota), **Sean Dunham** (USDA Chippewa National Forest), **Marcie Gotchie** (USDA Chippewa National Forest), **Evan Montpellier** (University of Minnesota), **Lane Johnson** (University of Minnesota), and **Sophie Pitney** (University of Minnesota) "Fire, pine, and people in Great Lakes Forests"

Growing evidence in the Upper Great Lakes more clearly points to the critical role of Native Americans as important agents in the maintenance of red pine forests through the use of fire. New and developing fire histories across many parts of the Great Lakes are helping to provide a more nuanced understanding of how, when, and perhaps why fire was used in different landscapes. Here we present dendrochronological evidence from multiple locations in the Upper Great Lakes that address the importance of fire and cultural connections across the Great Lakes prior to colonization. Using Star Island and the Boundary Waters Canoe Area in Minnesota, and Sleeping Bear Dunes National Lakeshore in Michigan as examples, we provide an overview of the connections between fire history and Native American landuse. This work can help inform strategies to restore and maintain fire-dependent forests by incorporating the cultural use of fire in management activities.

**Susan M. Kooiman** (Southern Illinois University Edwardsville) and **Rebecca K. Albert** (University of California Santa Barbara) "Indigenous Cuisine in the Woodland Northern Great Lakes"

The application of use-alteration analysis of pottery alongside analysis of adhered food residues on pottery has offered a unique view into food choice and cooking methods of the precontact Indigenous occupants of the Northern Great Lakes. Identification of phytoliths and starches present in carbonized food residues can provide evidence of specific plant species processed in ceramic cooking

vessels, while modes of cooking can be inferred from the patterning of carbonized food residues on interior pottery surfaces. Together they reveal diachronic variation in exploitation of plant resources such as maize, wild rice, and squash and changing styles of food preparation over time. When data from various Middle and Late Woodland sites in the Upper Peninsula of Michigan are assessed in context with chemical food residue analyses, macrobotanical and faunal remains, and ethnographic and ethnohistoric information, additional insights into regional culinary traditions are revealed.

**Susan M. Kooiman** (Southern Illinois University Edwardsville), **Jodie A. O'Gorman** (Michigan State University), **Autumn M. Painter** (Michigan State University), **Jeffrey M. Painter** (USDA NRCS-New Hampshire) "Why Cuisine?"

Archaeologists have increasingly moved away from discussions of "diet" and "subsistence" in lieu of perspectives that emphasize food's central role in a complex network of cultural and social interactions, past and present. Cuisine includes practices of identifying, obtaining, preparing, and consuming food, which expands interpretations beyond the traditional confines of environment and mobility and into the realms of identity, social relationships and interactions, economics, religion, and beyond. A number of archaeologists in the Midwest have been examining cuisine and the role of food acquisition, processing, and consumption in past societies. Through the application of a diverse array of methodological approaches, Midwest archaeology has become a nexus of innovative culinary research.

**Douglas Kullen** (Burns & McDonnell) "The Effects of Agricultural Practices on Midwestern Archaeological Sites"

The effects of plowing on Midwestern archaeological sites are fairly well understood, but the deleterious effects of other agricultural practices are less widely acknowledged. This paper reviews some of these other practices, including fertilizing, stump removal, burning, grazing, terracing, and farm drainage. The potential effects of these practices are discussed, referencing photographs of nineteenth and early twentieth century farm life.

**William A. Lovis** (Michigan State University), **Linda Scott Cummings** (PaleoResearch, Inc.), **John P. Hart** (New York State Museum) "Did You Ever Want to Get Multiple AMS Ages on One Ceramic Vessel? Well, We Did Just That!"

Increases in the use of adhered carbonized food residues (aka food crusts) from the interiors of ceramic cooking vessels to obtain direct AMS ages on individual vessels and the proxies of foods cooked in them raises a raft of questions designed to refine the use of the approach. Many desire to assess the consistency of the ages obtained from an individual vessel, if sampled at different locations on the vessel wall. Would the ages obtained be statistically the same or different, vary by sampling position, or alter interpretation? To affect this requires multiple AMS ages, an often cost prohibitive exercise. Here, we report on the variable outcomes of a collaboration that obtained up to a dozen sample ages from multiple individual vessels from several Upper Great Lakes Woodland sites, the results of which provide both insights and cautionary notes for future research.

**William A. Lovis** (Michigan State University) and **Vergil E. Noble** (University of Nebraska Lincoln and National Park Service - retired) "La Longue Durée: MSU and Historical Archaeology in the Midwest/Great Lakes Region and Nationally"

Where do you come from? A seemingly simple question that conjures visions of genealogy and origins, and as archaeologists about which we should be acutely aware given the likelihood of intergenerational information loss. Our goal here is to provide a biased foundation for future work on the history of historical archaeology in our region. Since 1959 Michigan State University, both as individuals including faculty and graduate students, as well as institutionally, was a pioneering force in building the foundation for much of historical archaeology nationally and regionally as it is practiced today. Across six decades MSU has engaged in a minimum of 24 major historical archaeology field projects totaling 61+ field season, four major collections projects, graduated ~50 MA or PhD historical archaeologists, been a farm team for SHA and SIA offices and committees, and spawned multiple major programs. This is our story.

**Mark L. Madsen** (member of Chicago Archaeological Society, IAAA, and SSAS) "The Thatcher Woods Serpent Mound and the Washington Street and Grotto Site"

Artifacts found in the 1970s by students of Myles D. Goddard and Dr. Royal J. Schmidt of Elmhurst College at the "Washington Street Site" along the Des Plaines River were donated to the Trailside Museum in River Forest, Illinois in 2020. Adena-style points were found at this site and the "Grotto Site" at Dominican University. Both sites are close to the Thatcher Woods Serpent Earthwork with an egg in its mouth found in 1935 by Isabel Wasson. The GLO Map of 1834 shows woods to the east and open prairie west and northwest of the river. SkyMap Program shows that there were three stars aligned to the Serpent Mound in 25 B.C.; Schedar in Cassiopeia to the north, Gamma Crucis to the south, and to the west of the egg surveyed by James A. Marshall at azimuth 256 degrees, Eta Ophiuchi (Sabik); the center star in the Serpens Constellation.

**Mark L. Madsen** (Chicago Archaeological Society, IAAA, and SSAS) "A Study of Astronomical Alignments at Higginbotham Woods Earthwork in Illinois"

Native Americans have a rich legendary mythology based on the stars, the sun and the moon. Using Surveyor Adam Comstock's 1894 map of Higginbotham Woods Earthwork, corrected for compass declinations, it became apparent that there is one true north-south and three east-west alignments. These couldn't have been known without a knowledge of the positions of stars. Ray A Williamson proposed in 1984 that Native American Earthworks like this one may be dated by star alignments that shift over time due to "precession of the equinoxes." After adjusting SkyMap Program for Higginbotham Earthwork's surrounding tree line and topographic elevations, a comparison of 180 B.C., A.D. 200, A.D. 700, and A.D. 1400 shows that alignments at Higginbotham Earthwork date to 180 B.C. Some of these stars include Eta Ophiuchi (Sabik) "the center star in Serpens Constellation," Alpha Scorpio (Antares), Alpha Virgo (Spica), and six solar and lunar standstill alignments.

**Mary Malainey (Brandon University)** "Bison Hoes and Bird Tails: Reconsidering the Introduction of Maize Farming into Manitoba"

Indigenous maize farmers lived at Lockport (EaLf-1) along the Red River north of modern Winnipeg from 1250 CE to 1450 CE. Bison scapula hoes with a perforation in the upper part of the blade, bell-shaped storage pits, charred remains of maize and beans, and grinding stones have been recovered from this site. Identical scapula hoes were used at the Olson site (DgMg-167) in the southwest corner of Manitoba beginning in the late 1400s/early 1500s CE. Reports of similar hoes at sites in Minnesota, Illinois and Indiana suggest an Eastern Woodlands connection. The style of incised raptor/thunderbird

tails on pottery also points to the northern movement of maize farming along the western edge of the tall grass prairie, not along the Red River as previously suggested. The movement of maize farming may be related to oral traditions of a period of peace on the Northeast Plains.

**LisaMarie Malischke** (University of Wisconsin-Milwaukee) "Communicating Uniqueness and Significance through Apparent Ruins: CRM at the Grand Trunk Car Ferry Slip Site (47MI492) in Milwaukee, Wisconsin"

The semi-submerged remains of the Grand Trunk Car Ferry Slip (47MI0492) are in Milwaukee's Inner Harbor at the confluence of the Kinnickinnic River, Milwaukee River, and Lake Michigan. At first glance, one notes they are broken, burned, and rotting; considered a nuisance by those who lease the slip. But research reveals the rich history of the site, and the slip's role in local, regional, and national economies. Car ferries were ships that transported loaded railroad cars, and the Grand Trunk Car Ferry Slip is one of the oldest, and possibly, only surviving car ferry slip on Lake Michigan and/or the Great Lakes. The challenge is to celebrate a decrepit site set for demolition, while publicly communicating its significance.

**Terrance J. Martin** (Illinois State Museum) "Late Precontact Culinary Practices in the Central Illinois River Valley as Revealed by Animal Remains from Feature 224 at the Morton Village Site (11F2)"

Excavations at the Morton Village site in 2012 revealed part of Structure 25 and six internal pit features along with artifacts and refuse representing both Oneota and Mississippian cultural groups. Feature 224 was unique among the pits in having a high density of domestic refuse such as broken ceramics representing as at least 40 vessels, several special whole artifacts, and more than 16,000 animal remains dispersed throughout four mid-fourteenth-century-stratigraphic zones. Analysis of the faunal assemblage disclosed more than thirty vertebrate taxa and two freshwater mussel species probably resulting from a community event instead of from food consumption by a single household group. Future considerations of Mississippian and Oneota foodways and procurement strategies in the Central Illinois River Valley will have to include culinary practices indicated by materials from Feature 224.

**Rudolf Martinez II** (Wayne State University) and **Ryan Edward Peterson** (Indiana University Bloomington) "Detecting the Past: A Misunderstood Method"

This paper lays out a methodological approach to utilizing metal detectors as a remote sensing tool to a minimally invasive archaeological surveying technique. This methodology focuses on the identification of new archaeological sites that contain a known metallographic component and focus. Metal detecting has a practical value which offers researchers an additional tool for confirming new site locations and can assist with defining site boundaries. These sites are then able to be sampled with less intrusive techniques in tandem with standard test pits to identify cultural components within sites, while preserving site integrity for future research. The techniques discussed focus on basic operating and surveying procedures as well as a fictional case study to provide a descriptive illustration of this methodology.

**Annika Maso** (Center for American Archeology), **Melina Edic** (Center for American Archeology), **Chyna M. Lee** (Center for American Archeology), **Caroline Boerger** (Center for American Archeology), **Zoe Doubles** (University of Illinois Urbana Champaign), **Jacob Holland-Lulewicz** (Washington University in St.

Louis) and **Jason L. King** (Center for American Archeology) "The German Site: A Comparative Analysis of Community Organization and the Construction of Place in the Lower Illinois River Valley"

The German Site (11C377) is a Late Woodland Jersey Bluff phase (ca. 800-1200 CE) habitation site located on a colluvial slope north of Crawford Creek, a tributary to the Illinois River. Since 2019, Center for American Archeology field schools have investigated the site, documenting house basins and associated features through geophysical survey and excavation. Our work at the German Site adds to the regional narrative about the lives and spaces of Lower Illinois Valley Late Woodland people. In this poster, we explore variation in house forms, community organization, and their relationships to the landscape. Our analysis places the German Site and the people who lived there in the context of their contemporaries in the Lower Illinois Valley and adjacent regions.

**Kenzie May** (Center for American Archeology), **Jason L. King** (Center for American Archeology), **Duncan P. McKinnon** (University of Central Arkansas) "Rediscovering the Landscape at the Kampsville Lock and Dam (11C142)"

During the 19th century the United States government began to artificially improve the nation's inland waterways. Congress selected the Illinois River as major route that would connect the Great Lakes to the Gulf of Mexico. Work to improve flow and reliability began with the construction of locks, and dams along the river in 1869. Installation of the Kampsville Lock and Dam began in 1880 and was completed in 1893. Recent archaeological investigations at the Kampsville Lock and Dam (11C142) have provided a unique opportunity to analyze how the lock and dam effected the cultural and physical landscapes of the Kampsville community. In this poster we connect this powered landscape to the village of Kampsville's prosperity and success.

**Robert Mazrim** (Illinois State Archaeological Survey) "Up Close and Personal: A Glimpse of an Antebellum Tavern on the Mississippi River"

In 2019, the Illinois State Archaeological Survey investigated the site of an early nineteenth century tavern (overlooking the Mississippi River at the town of Chester, Illinois) as part of a bridge replacement project conducted by the Illinois Department of Transportation. The excavations in an unplowed setting revealed an unusually well-preserved structural footprint of the tavern. That structure, built around 1835 by Horace Francis, served as a place of lodging, dining, and entertainment for a little over ten years. The material assemblage affiliated with the subsurface features was a robust one, including unusually well-represented artifact classes associated with dress and personal practice. The picture painted by the archaeological data is an intimate one, and provides numerous small details concerning tavern life that are not generally available in the archival and historical literature of Midwestern tavern keeping.

**Madeleine McLeester** (Dartmouth College), **Alison Anastasio** (University of Chicago), **Pete Geraci** (University of Wisconsin-Milwaukee), and **Jesse J. Casana** (Dartmouth College) "Perennial Places: Archaeological Approaches to the Past Indigenous Agricultural Landscapes of Wisconsin"

Wisconsin has over 450 documented archaeological and historical Indigenous agricultural fields. Recorded primarily in the late nineteenth and early twentieth centuries, less than 10% of these archaeological field sites remain today. This presentation describes our ongoing efforts to document and investigate ancient garden beds alongside associated archaeological features as well as demonstrate their enduring ecological impacts on the region's ecology. Here, we present data from ground-truthing a

field located in aerial imagery as well as floristic surveys of extant fields that illustrate the long-term entanglements of past agricultural spaces in the American Midwest.

**Alex Michnick** (Grand Valley State University) "A Tale of Two Traders: Merchandise Sourcing and Comparative Analysis from Two Nineteenth-Century Fur Trading Posts in the Grand River Valley"

This study examines the history and artifact assemblages of the fur trade post sites of Rix Robinson (1789-1875) and Daniel DeMarsac (1812-1880). Operating in the Grand River Basin of the present-day state of Michigan between 1821-1857, these two traders are historical examples of independent enterprises competing with the incursion of the American Fur Company during the later period of the fur trade. Their relationships with the local indigenous populations, and their competition with one another for economic domination over the Grand River region are exhibited through several primary-source documents. Trade activity is further investigated through dating and sourcing of ceramics, gunflints, and other objects interpreted as diagnostic trade goods evidencing the competitive relationship between Robinson and DeMarsac. These interpretations promote continued analysis of collections of sites excavated in the 20th century relevant to the heritage of the Great Lakes region and the interactions between Euro-American fur traders and indigenous peoples.

**Nate Moelling** (Central Michigan University) "Crafting a Thesis in the Middle of a Pandemic: The 2020 and 2021 Field Seasons at 20CL69"

I began an internship with the USDA-NRCS in East Lansing in the Fall of 2019 after learning about the NRCS archeology program at the 2019 Michigan Archaeology Day event at the State Museum in Lansing, MI. The Covid-19 Pandemic interrupted my internship only briefly as I resumed it in June of 2020 helping the NRCS archaeologist with field work at the USDA Rose Lake Plant Materials Center. During the summer of 2020 we relocated 20CL69 and it became my thesis site. This paper will discuss the methods used and the findings thus far.

**Gabrielle E. Moran** (Michigan State University) "Field Opportunities, in Lieu of a Field School, During the Covid-19 Pandemic"

As an undergraduate student focusing on archaeology, it is necessary for my career goals to have a field school before graduating. Unfortunately, the Covid-19 Pandemic resulted in the cancelation of many, if not most, field schools in both the 2020 and 2021 field seasons, leaving me with few options. Fortunately, I found an internship with the USDA-NRCS in East Lansing working with the NRCS archaeologist at the USDA Rose Lake Plant Materials Center. This paper will discuss the opportunities and challenges this internship has presented.

**Fernanda Neubauer** (University of California, Los Angeles; University of Wisconsin-Madison) "Culinary Practices: The Use of Fire-Cracked Rocks in Earth Oven Cooking"

Although earth oven usage was a common culinary practice among hunter-gatherer and ancient populations in North America and around the world, these features are often mischaracterized as hearths. An earth oven, however, is a specific layered cooking arrangement of fire and food items designed to bake foods for periods ranging from a few hours to several days. This paper provides an example of an earth oven facility containing fire-cracked rocks (FCR) and discusses its archaeological signatures. A case study of earth oven function is drawn from a Late Archaic period feature dated to approximately 3000 BP at Site 914 (FS09-10-03-914/20AR387) on Grand Island, Michigan. As remnants of ancient cooking technology and domestic life, the analysis of the fracture and use-alteration patterns

of FCR associated with this earth oven feature, as discussed here, provides useful information on the intensity and extent of earth oven usage in food preparation.

**Kelsey Nordine** (Washington University, St. Louis) “Food and Community at the Morton Village Site: Paleoethnobotanical Perspectives”

The archaeological study of food and cuisine provides important insight into the social and cultural lives of past people. This paper examines the role of food in social identity negotiation at Morton Village, a Bold Counselor Oneota and Mississippian settlement in the Central Illinois River Valley. Morton Village was occupied contemporaneously by groups producing both Mississippian and Oneota ceramics in the 14th century and is identified as a multicultural village through the presence of these two distinct types of ceramic remains. This paper addresses plant use variability among and between Morton villagers in both domestic and special contexts to aid in understanding the role of food in social interaction at Morton Village, and to generate narratives of multicultural interaction at the community level. Results of this research indicate that similar plant taxa were used across the site, but nuanced differences in plant use between groups is reported and analyzed.

**Autumn M. Painter** (Michigan State University) and **Susan M. Kooiman** (Southern Illinois University Edwardsville) “Capturing Campus Cuisine: Connecting the Past to the Present through Historic Foodways”

The Capturing Campus Cuisine project was developed the Michigan State University (MSU) Campus Archaeology Program (CAP) to identify the foods served to and eaten by students in the earliest days of the MSU campus. Archaeological food remains and purchasing records were used to determine food selection and consumption, while documents such as banquet menus and regional cookbooks were used to understand the popular recipes and dishes of the time. To capitalize on the current public fascination with food, CAP used this project to launch several outreach initiatives. Among these were an 1860s meal reconstruction, â€œthrow-backâ€ dishes served by the MSU ON-THE-GO Food Truck, and a collaboration with the MSU Organic Farm to grow and distribute a â€œretroâ€ crop as part of the local CSA offering. The project was a successful demonstration of the power of food to help the public tangibly connect to the past.

**Jeffrey M. Painter** (USDA NRCS- New Hampshire) and **Jodie O'Gorman** (Michigan State University) “You Are How You Eat: Towards an Understanding of Cuisine and Community Integration at Morton Village”

Over the last 14 years, research has demonstrated that the Morton Village site in west-central Illinois was occupied contemporaneously by local Mississippian and migrant Oneota groups. Among the complex social negotiations of post-migration politics and ideologies, changes in cuisine helped to promote community integration in this village. Adoption of the plate vessel form by migrants serves as a clear material example of these negotiations. In this paper, we explore the roles of plates at Morton Village by conducting functional, stylistic, and spatial analyses. Through a lens of hybridity, analyses indicate that while the use of plates in community events may have helped migrants participate in local practices, migrants also incorporated plate use into their own traditions as well.

**Ryan Edward Peterson** (Indiana University Bloomington) “Maritime Least Cost Path Analysis: Archaic Travel Routes in the Upper Great Lakes”

The use of the Cost Path tool in geospatial technologies has allowed for the creation of digital models that can predict past behaviors and movements. While often applied to terrestrial landscapes, these models have gained increasing popularity in modeling movement across maritime and composite

landscapes. The methods used in this paper, first laid out by Gustas and Supernant, allow for the creation of a model not reliant upon a known origin and destination points, but, rather, utilize a matrix of points placed arbitrarily around the edge of the study area. This paper applies the principles of Maritime Least Cost Path analysis to create a predictability model for travel in the Upper Great Lakes during the Nipissing paleo-lake level event in the Archaic period. The result of this paper is a heat density map that can identify 1: high frequency travel corridors and 2: coastal areas of high frequency travel.

**Ryan Peterson** (Cardno) and **Kathleen Settle** (Cardno) "Bethel Cemetery Relocation Project: An Introduction and Overview"

The Bethel Cemetery Relocation Project represents a large-scale cemetery exhumation that required coordination with a number of agencies and partnerships with three universities. A concerted effort was made to engage descendants, veteran's groups, the preservation community, and other stakeholders. Detailed documentation was completed throughout the project using both traditional techniques, as well as Structure-from-Motion photogrammetry. Upon fieldwork completion, analyses of all artifacts recovered and osteological analysis of each individual were completed. Community outreach culminated with a rededication ceremony at Concordia Cemetery, the new resting place for those interred in the Bethel Cemetery. Graves of the unidentified were provided markers with unique identifiers that correspond with the report, enabling family members and researchers access in perpetuity to the comprehensive information that was compiled for each burial. The project resulted in extensive documentation and research while maintaining the utmost respect for the deceased.

**Grace A. Poff** (University of Minnesota Morris) and **Rebecca M. Dean** (University of Minnesota Morris) "The AJ Briscoe Collection: A Look at West-Central Minnesota's Prehistory"

AJ Briscoe, a collector from West-Central Minnesota, gathered archaeological materials from the Chippewa River Valley near his home in Benson throughout the 1940s and 50s. When Briscoe died in the 1960s, the collection remained within his family until parts of it were donated to Minnesota State University Moorhead and the University of Minnesota Morris within the last decade. The collection included a variety of large stone tools, animal remains, small stone tools, and just plain rock. Among the small stone tools donated to UMN Morris were around 75 projectile points from a range of time periods and materials. The type and raw materials of these projectile points give us a better understanding of the occupation in West-Central Minnesota, an area that has not been extensively studied by archaeologists.

**E.W. Duane Quates** (Natural Resources Conservation Service) "The NRCS Cultural Resources Annual Training: Educating Non-Specialists in Archaeology During the Covid-19 Pandemic"

The NRCS in Michigan began holding annual cultural resources training in 2017 for all field staff in the agency. To date, over 200 NRCS employees have been trained. However, the Covid-19 Pandemic interrupted the 2020 annual training schedule and training could not resume until July of 2021. The renewed training effort began in the height of the Delta Variant surge, which presented considerable challenges. This discussion will focus on how the Cultural Resources Staff adapted to tackle these challenges to educate the NRCS technical staff.

**Caitlin G. Rankin** (Illinois State Archaeological Survey) and **Michael B. Lansdell** (Illinois State Archaeological Survey) "Archaeology in Alluvial Fans: Expect the Unexpected"

The term “alluvial fan” in Midwest archaeology tends to render expectations of well-stratified archaeological sites that are neatly buried under a mass of alluvium. At least, this was the Illinois State Archaeological Survey staff expectations for the much-anticipated IDOT I-270 Interchange Project near Dupo, Illinois. We expected the project to yield a neatly stratified, multi-phase sequence of woodland sites buried within the Cement Hollow alluvial fan. However, what we uncovered was a stratigraphically discontinuous landform, with multiple fan lobe extensions that removed and redeposited older archaeological sites. In this presentation, we share how we use geoarchaeological methods of stratigraphic analysis to unravel the complex context of archaeological sites in the Cement Hollow alluvial fan and provide insights and perspective on the diversity of fans for other researchers working in these complex and diverse landforms.

**Hannah Rucinski** (Illinois State Archaeological Survey) and **Madeleine Evans** (Illinois State Archaeological Survey) “Microdrills, Microliths, and A Flourite Bead: Mississippian Craft Production at the Sponemann Site, American Bottom”

Intermediate Late Woodland and Mississippian components were recently discovered following excavations prior to improvements to Horseshoe Lake Road and bike trail relocation in the American Bottom (2007-2008). This site includes material consistent with Sponemann II, Late Stirling, and Moorehead phases in the American Bottom. The Mississippian assemblages consist of mundane household tools and specialized crafting tools. Evidence of craft activities, including more than 50 microdrills and microliths, is focused in a single Moorehead phase structure and its associated features. A drilled fluorite bead from this structure is a relatively uncommon artifact type in this area and speaks to connections with Mississippian people in the fluorspar region of southeastern Illinois and Kentucky.

**Robert F. Sasso** (University of Wisconsin-Parkside), **Daniel J. Joyce** (University of Wisconsin-Parkside) “The Historic and Archaeological Evidence for Five Structures at the Montgomery Site, Kenosha County, Wisconsin”

The Montgomery site is best known as the early nineteenth century location of the earliest Euro-American cabin constructed in what is now Kenosha County. However, the site as presently defined contains the remains of at least three other structures dating to the mid to late nineteenth century, and another house stood a short distance away in 1836. The authors briefly review the historic documentation and archaeological evidence of the first three structures, which include the original ca. 1834 Montgomery log cabin, a ca. 1855 parsonage house, and a ca. 1855 cabin. An otherwise undescribed structure shown as a house on an 1861 plat map was investigated during the summer of 2021. An overview of the details of this most recent research and its findings is presented. Lastly, we discuss what has been determined about a fifth house, one reported and mapped by the General Land Office surveyors in January, 1836.

**Kimberly Schaefer** (Illinois State Archaeological Survey), **Mary Simon** (Illinois State Archaeological Survey), and **Mary King** (Illinois State Archaeological Survey) "The Archaeobotany of the East St. Louis Precinct of Greater Cahokia

Recent excavations at the East St. Louis Precinct of Greater Cahokia have produced a large volume of data about this important Mississippian civic-ceremonial center. This paper summarizes the archaeobotanical assemblage for occupations dating from the Terminal Late Woodland II period through late Stirling/Moorehead Mississippian. This time period saw major shifts in social organization that were also accompanied by changing food procurement strategies, including the adoption of maize as an

important food source. Overall, however, the suite of plants used by the site's inhabitants was remarkably stable.

**Christopher W. Schmidt** (University of Indianapolis), **Megan Hoffman** (University of Indianapolis), **Grace Holmes** (University of Indianapolis) "A Case of Mastoid Osteoma at the Bethel Cemetery"

Burial 017 is Elizabeth Poland, who died at 76 years old (1820-1896). Her pathological conditions include pedal arthritis, vertebral degeneration, antemortem tooth loss, and hyperostosis frontalis interna. Additionally, she had a large osseous growth on her parietal, superior to her mastoid process. Our differential diagnosis focused on osteoblastic lesions including primary and metastatic neoplastic lesions (e.g., osteosarcoma, metastatic breast cancer), fibrous dysplasia, osseous venous vascular malformation, intraosseous meningioma, and osteoma. We determined osteoma was the most likely condition based on morphology and location. Osteomas form on cranial vaults as benign outgrowths. Mastoid osteoma presents as a sizable, egg-shaped nodule on the posterior parietal; it is rare (~1%) but persistent in ancient and extant peoples. It is largely idiopathic, but possible causes include genes, trauma, chronic infections, and pituitary disorders. Most produce no pain or adverse symptoms, so mastoid osteomas often go undiagnosed until considerable swelling emerges behind the ear.

**Mark R. Schurr** (University of Notre Dame) and **Madeleine McLeester** (Dartmouth University) "Can we use stable isotopes to find prehistoric fields?"

In some portions of the Midwest, relict agricultural fields have been documented in historic records and by excavation. In most cases though, the locations of past agricultural plots have been destroyed by natural or cultural processes. With the majority of ancient fields destroyed, important aspects of cultivation remain ambiguous, especially the ecology of cultivated areas. The choice of specific environmental settings (prairie, wetland, upland forest, etc.) can be encoded in the stable isotope ratios of cultigens. However, obtaining accurate isotope ratios requires pretreating samples to remove contaminants. Carbonized modern maize kernels are used to assess the effectiveness of different pretreatment methods. Those methods are applied to maize and wild plants from the Middle Grant Creek site (11WI2739), an early 17th century village in northeastern Illinois, to determine the ecological settings of agricultural fields used by the site's inhabitants.

**Kathleen Settle** (Cardno, Inc.) and **Kathleen Bindley** (Cardno, Inc.), **Scott Hipskind** (Cardno, Inc.) "Nineteenth to Twentieth Century Consumerism and Trash Disposal Practices in Indianapolis"

As part of the DigIndy Deep Tunnel project, Cardno completed archaeological investigations across Indianapolis over a period of five years. Forty discrete locations were surveyed throughout downtown Indianapolis and the surrounding neighborhoods, the majority of which were situated within the NRHP-listed Indianapolis Park and Boulevard System. More than 20 new historic archaeological sites were recorded through the use of archival research and ground-penetrating radar survey coupled with vacuum truck excavation, an innovative technique established by Cardno for urban archaeology as part of this project. Of the sites identified, approximately 24 percent consisted of trash dumps, with date ranges spanning the mid-nineteenth to the late twentieth centuries. The majority of these sites were identified in present-day park settings. The unique nature of the project has provided insight into nineteenth and twentieth century consumerism and trash disposal practices in Indianapolis, and their association with present-day parks.

**April K. Sievert** (Indiana University) and **Melody K. Pope** (IU Museum of Archaeology and Anthropology) "The Indiana University Museum of Archaeology and Anthropology and Its Glenn Black Research Laboratory"

"The Glenn Black Research Laboratory will reopen in the new IU Museum of Archaeology and Anthropology (IUMAA) in Bloomington, Indiana as a re-conceptualized research center with a new vision. Renovations create an integrated structure to open and connect the Glenn Black Research Laboratory to research and education spaces that increase physical visibility and access for visitors. The new center includes a materials science laboratory, enhanced artifact processing and collections care, and reconfigured storage. A digitization lab, and state-of-the-art HVAC ensures preservation. Strategic planning to wrangle collections resources and boost research includes getting information under control, intentionally reconfiguring reference collections, and assessing collections potential. Staff seek questions and input from the Midwestern archaeological research community to aid in bringing the laboratory back online in 2022.

**Katherine Sterner** (Towson University) and **Katlyn Burkitt** (Towson University) "Refining Interpretations of the Conowingo Site (18CE14): Ground Stone Analysis of the Stearns Collection"

The Conowingo site (18CE14) has been described as a Late Archaic-Late Woodland seasonal base camp supported by a series of exploitive procurement camps supplying non-local goods. This description of one of the largest pre-contact sites in Maryland has been de rigueur since the site was excavated by the Archaeological Society of Maryland in 1981-1982. Multiple severe flooding episodes have ensured that later excavations have not supplied much data to alter this narrative. However, the currently accepted time of occupation and interpretation of site function do not include data from over 100 years of avocational archaeologists collecting artifacts from the site. Analysis of the Stearns collection from the 1930s indicates the presence of a significant Middle Archaic component, and a much heavier reliance on local goods than initially inferred.

**Anna Stroulia** (University of Southern Indiana), **Michael Strezewski** (University of Southern Indiana), **Ryan Parish** (University of Memphis), and **Melody Pope** (Indiana University) "The Other Large Bifaces: Late Mississippian Woodworking Tools from Southwestern Indiana"

Mississippian peoples produced two types of large chert bifaces: digging implements, usually referred to as hoes, and tools presumably used in woodworking, referred to as adzes, celts, gouges, picks, and chisels. Hoes hold a prominent position in Mississippian literature as they have been part of the discussion of exchange, specialization, and elite control. Though also involved in exchange networks and often the result of significant labor investment, woodworking tools have attracted much less attention. This paper attempts to address this gap by focusing on over 200 tools and fragments from three Caborn-Welborn sites in southwestern Indiana: Caborn, Hovey Lake, and Murphy. Our study 1) examines the technomorphological characteristics of these woodworking tools, 2) explores the chert sources utilized, using reflectance spectroscopy analysis, 3) presents results of a pilot use wear study of Dover chert bifaces, and 4) makes comparisons with other assemblages, placing these materials in their broader Mississippian context.

**Megan E. Thornton** (University of Wisconsin Milwaukee) "Compositional Analysis of Middle Woodland Pottery in Southeast Wisconsin and Northern Illinois"

This research provides a compositional analysis of a selected sample of Middle Woodland pottery sherds from nine sites in southeastern Wisconsin and northern Illinois. In southeastern Wisconsin, the Middle Woodland occupation is poorly understood, and sites with Middle Woodland

components have been suggested to be part of the Waukesha phase. Although the phase is considered to represent some degree of interaction with Illinois Havana-Hopewell, direct evidence of such interaction is lacking A review of available documentation and an attribute-based analysis of metric, morphological, and petrographic data suggest an overall homogeneity of paste composition between the samples. Statistical analysis of the data was unable to identify specific samples or recipes by region. The results of this project suggest that paste recipes may have been widely shared between people in southeastern Wisconsin and northern Illinois and may indicate existing relationships within groups in the study region.

**Chloe Trinka** (Western Michigan University), **Lucile Clark** (Western Michigan University), **Erika K. Hartley** (Western Michigan University) "Returning to Fort St. Joseph: The 2021 Field Season"

This past summer the Fort St. Joseph Archaeological Project stepped back into the trenches after a year of excavation hiatus due to the global COVID-19 pandemic. The Project has been conducting excavations in Niles, Michigan for over twenty years as part of Western Michigan University's archaeological field school, now in its 45th year. The purpose of the 2021 field season was to conduct additional excavations in two of the 25 x 5 m trenches that were dug through a mid-twentieth century landfill in 2019 that covers the southern boundary of the Fort St. Joseph site. Our excavations aimed to identify the horizontal extent of the eighteenth-century deposits beneath the landfill. This poster presents a brief introduction to the history of Fort St. Joseph and the most recent archaeological work, highlighting the field procedures and material remains unearthed during the 2021 field season.

**Colleen Westmor** (Civil & Environmental Consultants, Inc.) "The "Welsh-Dunlap" Site in Terre Haute, Indiana"

In July 2020, Civil & Environmental Consultants, Inc. conducted a Phase I Cultural Resources Survey for Peabody Midwest Mining, LLC's Wabash Site 1 Project, a wetland mitigation site in Terre Haute, Indiana. Seventeen archaeological sites were located within the project area, fifteen of these were associated with a series of sand dunes and represent and multi-phased occupation spanning approximately two thousand years. Portions of the Wabash and Erie Canal were also located within the project area. Over 1,700 prehistoric and historic artifacts were collected and analyzed. This paper will follow the research of the "Welsh-Dunlap" site, including records from a 1949 county survey, an unpublished 1970 excavation, an amateur archaeologist's survey, and a the Cultural Resource Management Survey that brought them together.

**Gregory Wilson** (University of California Santa Barbara), **Jacob Skousen** (Illinois State Archaeological Survey), and **Amber VanDerwarker** (University of California Santa Barbara) "Upland Administrators and the Management of Cahokia's Diversity: An Examination of Ceremonial Foodways in the early Mississippian Richland Complex"

This paper analyzes the archaeological food remains from the Dugan Airfield site to better understand how various forms of regional mobility, resettlement, and religious ceremonialism helped generate Cahokia's ethnically diverse early Mississippian population and regional-scale political economy. The food remains were recovered from a large, two-roomed, special-purpose building that has been interpreted as a temple. The ceramic assemblage from this deposit is stylistically heterogeneous in composition and includes a relatively high amount of elaborate serving vessels and pans. The botanical remains from this deposit and elsewhere at the site include high maize

concentrations and seeds from plants commonly used in religious ceremonialism including nightshade, morning glory and tobacco.

**Jeremy J. Wilson** (Indiana University-Purdue University Indianapolis) “The Bioarchaeology of the Bethel Cemetery”

During the Bethel Cemetery Relocation Project, 530 individuals were exhumed with 507 subsequently undergoing osteological analyses by bioarchaeologists at the University of Indianapolis and Indiana University-Purdue University Indianapolis (IUPUI) during the 2018-19 academic year. In this presentation, the scope, protocols, methods, and procedures utilized during the skeletal analyses are highlighted, including the development of biological and taphonomic profiles, as well as the challenges and opportunities related to ongoing and future research. Given the presence of some headstones and subsequent identifications achieved during archival research, the project provided a unique opportunity to assess our analytical methods, develop osteobiographies for select individuals, and provide valuable insights about the demographic and epidemiological processes that unfolded is the rural community over the course of the 19th and early 20th centuries.

**Gretchen E. Zoeller** (University of Pittsburgh) “A not-so-secret affair: a case study of treponemal infection from the Bethel Cemetery”

When records and textual evidence from the past are subjective, piecemeal, or absent, bioarchaeological analyses can be indispensable for elucidating otherwise buried histories. The case study of Burial 505 from the Bethel Cemetery highlights an individual that displays characteristic features of tertiary-stage venereal syphilis. When combined with archival and genealogical research, this probable case of treponemal infection offers a unique lens for interpreting life on the Midwestern frontier during the mid-19th century. Osteological evidence combined with contextual clues reveal the story of a young woman and mother who, despite tragic circumstances, was advocated for and afforded treatment in death equivalent to others in her community. Given the archaeological context, Burial 505’s pathological condition speaks to the historically variable nature of how disease and disability have been recognized, treated, and perceived cross-culturally.