

## Three Questions: Dr. Michael Nowak

By Michael J. Nowak, Ph.D., Mike Nowak Consulting, LLC



Photos Credit Nienow Cultural Consultants LLC.

My story bridges the avocational and professional archaeology perspective in Minnesota. I have a B.S. Chemistry with Physics minor and Ph.D. Natural Resources Science and Management (Engineering track, University of Minnesota). I worked in the chemical industry for 10+ years as a chemist, applications engineer, business development leader and global R&D manager for the adhesives sector with a background exploring structure-property-performance relationships for a range of materials and applications. Five years ago I left the corporate world to focus on raising my kids while running my consulting businesses from home. Last year I made a decision to pursue archaeology, which is a field

I have been passionate about for many years! I “dug” in and now have significant volunteer and paid archaeological fieldwork experience on numerous projects including excavation, geophysics, artifact processing, Geographic Information Systems (GIS) mapping, research, curation and reporting. I am finishing up my Archaeology Certificate this year. The relationships I have built in the local archaeology community have been inspiring with so many people willing to help. Archaeology has been the perfect combination of history, science and physical fitness for my lifestyle. I am also honored to join the Minnesota Archaeological Society Board of Directors! (*continued page 4*)

## **Letter from the President**

By Dan Wendt

The letter from the President is intended as a vehicle to inform the general membership of the Minnesota Archaeological Society of recent Board of Directors activities. The following is a brief recap of the events, discussions, and decisions that transpired during the past quarter.

**Fall Events:** September was Archaeology Month in Minnesota! The office of the State Archaeologist organized events throughout the state. There were two events that had significant MAS support, these included the Archaeology Fair at Fort Snelling State Park the weekend of September 8<sup>th</sup> and 9<sup>th</sup> and Archaeology Day at Mille Lacs - Kathio State Park on Saturday September 29<sup>th</sup>. Visitors had the opportunity to learn more about Minnesota's past, artifact identification, pottery making, arrowhead making, and atlatl throwing.

**Winter Events:** The CMA meeting will be held in Saint Cloud on February 15<sup>th</sup> and 16<sup>th</sup>. The meeting is open to the public and researchers from across the state will present posters and papers on their research and preservation work across Minnesota. Watch our web site and Facebook for developing details.

Through the upcoming year we will be completing the Public Television Video "**Science and Critical Thinking in Minnesota Archaeology**". We have procured funding for our second phase of work through Legacy Grant funding and the Minnesota Historical and Cultural Heritage Program. We are excited to have Twin Cities Public Television's commitment to continue our partnership on this project and we are planning the release of the video in multiple forums in late 2019 and early 2020.

**Board Changes:** We have a strategic goal of involving a new generation of board leaders in Minnesota archaeology. We have two new Board Members who joined the board this summer. The first new member Mike Nowak was on our 2017 financial audit team. Mike is a PhD Chemist with a deep interest in archaeology and is exploring ways to get involved in Minnesota Archaeology. Our second new board member is Jennifer Rankin. Jen moved to the Twin Cities this year and is working on completing her PhD in archaeology at Temple University in Pennsylvania. Jen has an interest in Paleoindian archaeology and is following leads to extend her research interest to Minnesota. For our next steps we are specifically looking for those interested in participating in publishing the Minnesota Archaeologist and introducing business tools to our financial tracking.

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*Did you know that our last MAS Annual Meeting and Dinner, held on April 20, 2018, drew the largest crowd in decades? Want to see what all the fuss is about? Stay tuned for the announcement of the 2019 event!*

*Don Spohn, Great Lakes Copper Research in Coopersville MI is trying to find a 1940 copy of MnArch's Copper Issue. If you might be able to help Don out, his email is tomotr@me.com.*



## Council for Minnesota Archaeology Symposium Call for Sessions, Papers, and Posters



Photographs courtesy of the MNHS Archaeology Department

**Where:** Saint Cloud State University

**When:** February 15-16, 2019

Hosted by: Saint Cloud State University's Anthropology Department

The Council for Minnesota Archaeology is announcing a call for sessions, papers, or posters for its biennial symposium, to be held at Saint Cloud State University, February 15-16, 2019. The symposium is open to all researchers at any stage of their career, whether academics, students, commercial or community archaeologists, to report recent research on any aspect of Minnesota or Upper Midwestern archaeology.

Session, paper, and poster proposal submissions should not exceed 200 words, with papers not to

exceed 15 minutes in length. Proposals can be submitted to either: [Jennifer.Tworzyanski@mnhs.org](mailto:Jennifer.Tworzyanski@mnhs.org), [Patricia.Emerson@mnhs.org](mailto:Patricia.Emerson@mnhs.org), or [Bruce.Koenen@state.mn.us](mailto:Bruce.Koenen@state.mn.us), **no later than December 15, 2018.**

**Student Paper Prize:** There will be a student paper prize award of \$250 if a sufficient number of student submittals are received.

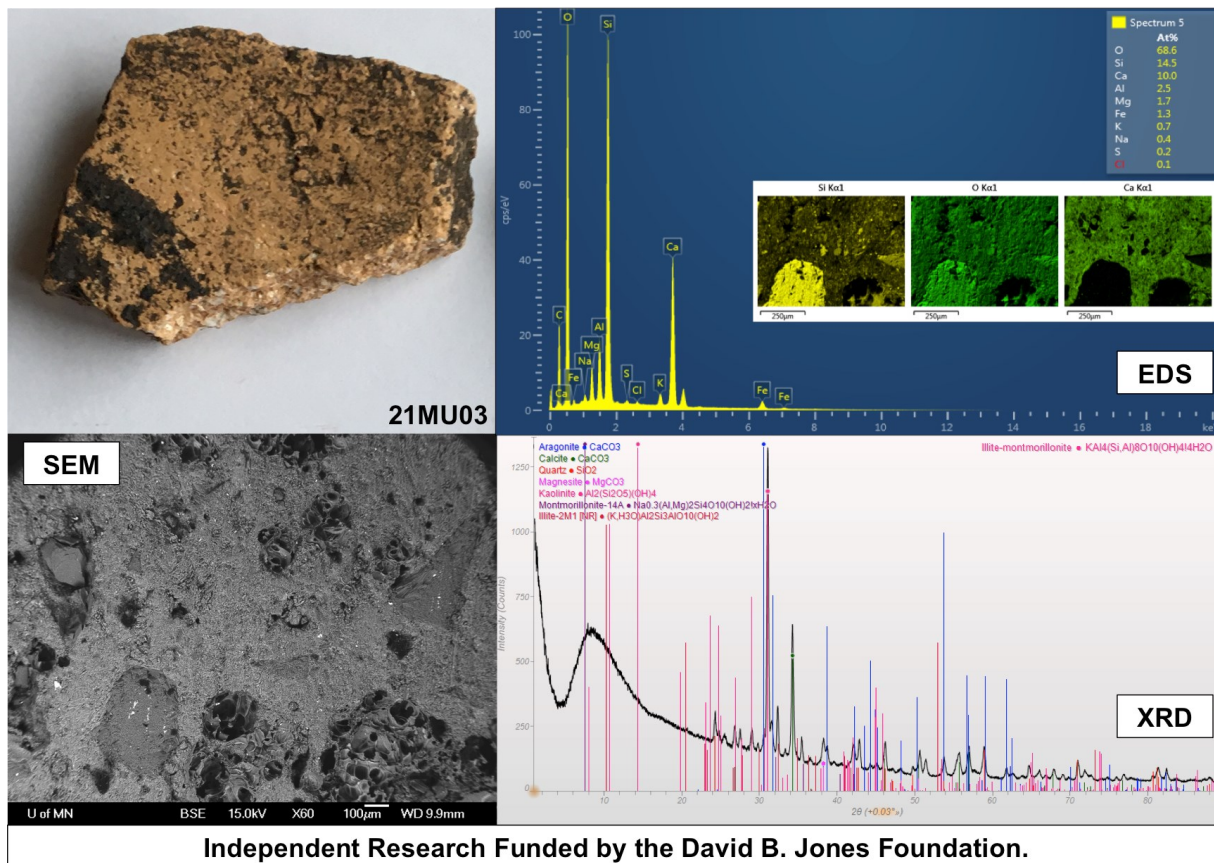
If you have any questions, contact Jennifer at [Jennifer.Tworzyanski@mnhs.org](mailto:Jennifer.Tworzyanski@mnhs.org)

*Council for Minnesota Archaeology – An organization dedicated to promoting archaeological research and interpretation in Minnesota.*



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## Three Questions: Dr. Michael Nowak (continued)



### 1) How did you get interested in archaeology?

My interest in archaeology started when I was much younger with an early fascination for Egypt. I was immediately captivated by the magnitude and mystery of the great pyramids, rich tombs and mummies. I was always drawn to the exhibits for Egypt at museums with strong interest in how and why they did things in Ancient times. I later became a fan of the Indiana Jones movie series and even had opportunities to visit Maya ruins in Mexico. After leaving the corporate environment to focus on family at home, I started to think about passions to pursue while I still have a chance. I was listening to Douglas Preston's audiobook, "The Lost City of the Monkey God," and was intrigued by the use of LiDAR technology to strategically map Ancient civilizations under the dense forest canopy of the Honduras jungle. I appreciated the science perspective to help focus the archaeological

fieldwork to advance understanding of cultural lifeways in the region. The rest is history. I started taking classes in archaeology, devoured books on the subject and volunteered in the lab and field. And, yes, I realized quickly archaeology is not like the Indiana Jones movies and I was okay with that! I immediately became a member of MAS and networked with leading archaeologists in Minnesota. I credit much of my progress in archaeology to relationships built at MAS events including Dr. Jeremy Nienow (Nienow Cultural Consultants LLC). Jeremy has mentored how to effectively run projects in archaeology with a team from inception to completion by leveraging scientific discipline, project management, stakeholder communication and public interface to meet aggressive timelines. I am even more prepared and motivated to continue my journey to help advance archaeology in Minnesota! (*continued page 5*)

## ***Three Questions: Dr. Michael Nowak (continued)***

### ***2) What is the most interesting archaeological thing you've found or seen in Minnesota?***

I have been a team member on many historic and prehistoric archaeological projects in Minnesota that have uncovered interesting artifacts and features. I was honored to spend this past summer as a sub-consultant for Nienow Cultural Consultants, LLC for the shovel testing and unit excavations at Fort Snelling for the Minnesota Historical Society. I also served as a sub-consultant for Archaeo-Physics, LLC prior to excavation to perform ground penetrating radar and magnetometer testing in consideration for test unit placement. The archaeological fieldwork at Fort Snelling documented soil stratigraphy, diagnostic artifacts, intact cultural features, and demolition events related to the 1904 blacksmith shop and cavalry stables. The most interesting discoveries to me were associated with the old barracks from 1878 including the limestone mortar footer and a burned soil lense from an apparent porch or building fire event. A wide variety of burned and unburned artifacts were found including general service military buttons dated between 1850-1865. It was fascinating to be part of a Team documenting the archaeology for an important time in the history of Fort Snelling, Minnesota and the United States.

### ***3) What research question would you like to address with your work?***

My background in chemistry, engineering and materials analysis is well suited to facilitate data that can be leveraged for historic and prehistoric context in Minnesota and beyond. For example, I volunteered with Dr. Gilliane Monnier at the UMN Archaeology Lab for portable x-ray fluorescence (pXRF) of soil samples and GIS mapping of results to determine prehistoric site trends in phosphorus, phytoliths and artifacts. In addition, independent

research for my Archaeology Certificate program focused on the characterization of Ancient pottery using the powerful combination of scanning electron microscopy (SEM), energy dispersive x-ray spectroscopy (EDS) and x-ray diffraction (XRD). Results from the analysis of pottery sherds in Southwestern Minnesota helped identify chemical compositions and crystal structure fingerprints consistent with raw material sources generally supported by local geology (i.e., grit-tempered clays with quartz and feldspars). The research determined the unique chemistry of one distinct pottery sherd that looked much different in appearance relative to other pottery found in the same provenience during excavations (see image). Findings that demonstrate a significant fraction of calcium carbonate chemistry dispersed in a different type of clay matrix suggest either a completely different pottery recipe manufactured locally onsite, prehistoric trade exchange mechanisms, and/or a cultural transition period at the Woodland habitation site. This type of archaeometric research and other experimental methodology can be leveraged for new and existing collections to provide additional perspective. Indeed, my discussions with leaders in Minnesota archaeology at multiple institutions indicate a clear interest in a more coordinated effort in the state using hard science to advance our understanding of the past. Perhaps even someday I will also join a project team using archaeometric techniques to study artifacts from Ancient Egyptian tombs!





## *Is It an Artifact? By Bob Suchanek*

Archaeologists are often asked to comment on found objects and their origins and use. It often isn't easy to tell how an object was formed or used but things created, shaped, or used by people are generally called artifacts. There are many object shapers, creators, and users. Some examples:

- Animals – bison rubbing against boulders.
- Plants – tree roots fracturing rocks.
- Water and Wind – spalling by ice crystals, scouring by running water, differential weathering of layered formations, glacial movement and scraping, deposition and dissolution of minerals.
- Geological Events – earthquakes, volcanic eruptions, mountain building.

All of these active agents (and many more) create a



The object on the left fits nicely in hand and has a smooth bottomed concavity that would make a useful little bowl or maybe a mortar for grinding. It was found in a field that has artifacts associated with historic and prehistoric human activity. The object on the right has a club shape that fits nicely in hand and was found in circumstances similar to the little bowl.

Archaeologists rely on evidence, experience and broad familiarity with human behavior and natural processes. There are many variables to consider! Objects may be clearly related to human activity but

huge variety of objects and features, some much like things made by people. Human agency is the key to “artifact”. Even a pile of feathers or colorful stones may be called artifacts if human collection or use can be verified or reasonably assumed. Since there's a long list of ways that objects are shaped and moved, some questions are always in order.

- Where was it found?
- What was it found with?
- Is it most like objects commonly known to be artifacts?
- Does it show evidence of human manufacture, modification, or use wear?
- Is it most like objects that are not artifacts?

Consider these two objects:



sometimes a rock is just a rock.

Neither of the objects pictured can be confidently called an artifact. The bowl is an example of a common rock carried by glaciers and deposited in glacial till. The club is most likely just a differentially weathered rock. If the bowl contained paint residue and the club was bloodied the status of the objects would be quite different. Both could have been useful utilized artifacts but like many things scattered about the fields of Minnesota it's impossible to know.

## Event Update: Archaeology Fair and Archaeology Day



Past MAS board member Dr. Jeremy Nienow demonstrates the finer points of launching a spear with the atlatl at the Archaeology Fair

On September 8<sup>th</sup> and 9<sup>th</sup> the Minnesota Historical Society and the Minnesota Archaeological Society hosted the 16<sup>th</sup> annual Archaeology Fair at Fort Snelling State Park. The

weather was accommodating both days and the fair attracted several hundred visitors to the exhibits. Archaeology Day, hosted by the Minnesota Archaeological Society, was also well attended,

especially given the unseasonably cool temperatures. The event was held on September 29<sup>th</sup> at Mille Lacs-Kathio State Park and attracted folks

interested in Minnesota history and archaeology, as well as ancient technology enthusiasts. *A big thanks to all of the volunteers and exhibitors that made both of these events a success!*

### Interesting Oneota Vessel from Lake Mille Lacs by LeRoy Gonsior

Recent archaeological investigations at Father Hennepin State Park on Lake Mille Lacs near Isle, Minnesota recovered a rim segment of a Late Prehistoric vessel from 21ML15. The vessel is apparently Oneota, but is unusual in that it is grit-tempered with a cord-marked surface. The vessel is particularly interesting as a hybrid combining Oneota and Late Woodland Sandy Lake characteristics. The surface decoration consists of trailed lines with a rounded undecorated rim. Archaeologists have recognized Sandy Lake ceramics with trailed line decorations as "Sandyota". Beta Analytic, Inc. completed radiocarbon dating of carbon residue from the interior of a decorated body sherd from this vessel. The dating yielded a conventional radiocarbon date of 680 +/- 40 or A.D. 1270. Oneota vessels, such as those recovered from Ogechie Lake below the outlet of Lake Mille Lacs by the University of Minnesota have oval shaped rims, are shell-tempered, and were designated within the Ogechie series. The Ogechie series in the *Handbook of Minnesota Prehistoric Ceramics* was dated by similarity to Orr Phase ceramics chronologically dated between A. D. 1300 to 1800.



Photo provided by Minnesota Historical Society (courtesy of Nancy Hoffman and Pat Emerson).

Minnesota Archaeological Society  
Fort Snelling History Center  
St. Paul, MN 55111

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Contact Anna Morrow  
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Send your MAS news and notices to [jacob.foss@mnhs.org](mailto:jacob.foss@mnhs.org)  
Thank you for supporting the Minnesota Archaeological Society