



UNIVERSITY OF WYOMING

THE FRISON INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY

BULLETIN 27
FALL, 2014

From the Director, Todd Surovell

This fall, as we celebrate George Frison's 90th birthday and the 17th year of the Frison Institute, I am happy to report that the value of the Frison Institute endowment has exceeded \$500,000 bringing us past the halfway point of our goal to raise \$1,000,000 to support archaeological research at the University of Wyoming. We have accomplished this with hundreds of donations, large and small, and for the continued support of our donors, I am grateful.

Growing our endowment continues to be our primary goal, and in recent years, we have had considerable success in that endeavor. This year, we were able to support twelve research projects, doubling what we were able to do in 2013. Grants ranged from several hundreds up to \$2,500. In other words, the Institute's ability to make meaningful contributions to archaeological research at the University of Wyoming has grown substantially.

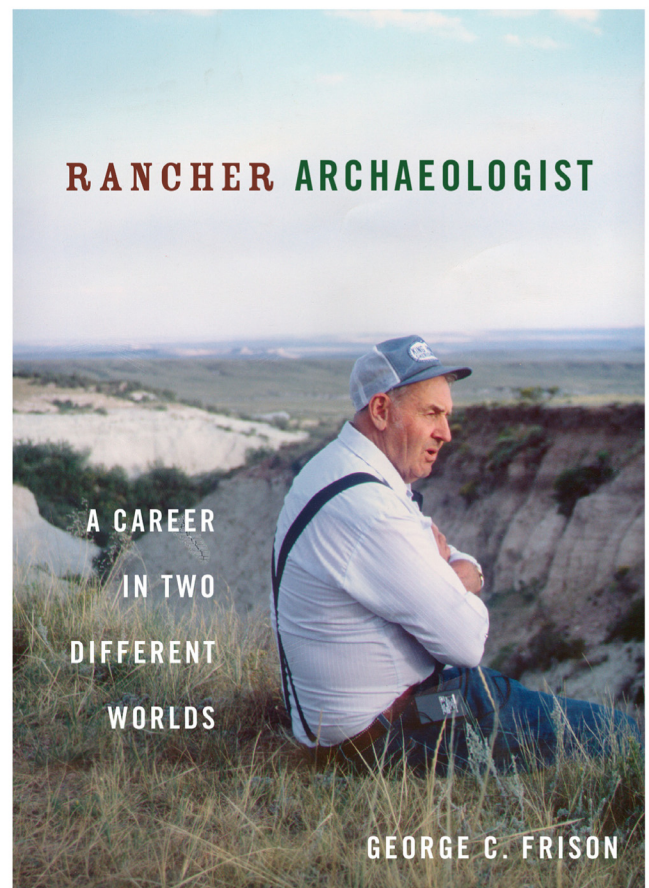
While I am thrilled at our recent successes, a lot of work re-

mains. We are still not at the point where we can meaningfully support archaeological fieldwork, a costly endeavor. As we turn the corner to raise the second half of the endowment, I am firmly focused on continued fundraising with the aim of devoting new funds to support field projects. In the spring, Board Chair Susan Bupp and I submitted a proposal to the Wyoming Cultural Trust Fund to create an endowed *Fund for Wyoming Archaeology*. Our initial goal is to raise \$120,000 to support a field project in Wyoming. Endowed, this amount would generate \$5,000 every year, which would fund ten days of excavation or survey. I am happy to report that we were awarded \$15,000 in matching funds to get this undertaking underway. Thanks to a groundswell of support, within two months, we had raised the matching funds, so we only have \$90,000 to raise until we can provide real support to archaeological excavations in the state of Wyoming.

GEORGE FRISON'S MEMOIR PUBLISHED

The University of Utah Press recently published *Rancher Archaeologist*, yet another book written by the Institute's namesake, Dr. George Carr Frison. This is perhaps his most personal work, recounting his life and career. We will be giving away copies of *Rancher Archaeologist* signed by the author for donations to the endowment of \$500 or more. From the publisher:

In this memoir, Frison shares his work and his atypical journey from rancher to professor and archaeologist. Herding cattle, chopping watering holes in sub-zero weather, and guiding hunters in the fall were very different than teaching classes, performing laboratory work, and attending faculty and committee meetings in air-conditioned buildings. But his practical and observational experience around both domestic and wild animals proved a valuable asset to his research. His knowledge of specific animal behaviors added insight to his studies of the Paleoindians of the Northern Plains as he sought to understand how their stone tools were used most effectively for hunting and how bison jumps, mammoth kills, and sheep traps actually worked. Frison's careful research and strong involvement in the scholarly and organizational aspects of archaeology made him influential not only as an authority on the prehistory of the Northern Plains but also as a leader in Wyoming archaeology and North American archaeology at large.



Institute Funded Research

Student Research

This year, we were able to support a wide range of student research projects. Six students received Institute funding: Josh Boyd (MA), Leslie Brown (PhD), Brigid Grund (PhD), Kevin Malloy (PhD), Greg Pierce (PhD), and William Taylor (PhD, University of New Mexico). These projects include stable isotopic analyses of human remains, a study of Scottish Medieval deer parks, trace element analysis of historic artifacts, and soil microbiology studies.

Dating the Garrett Allen Site

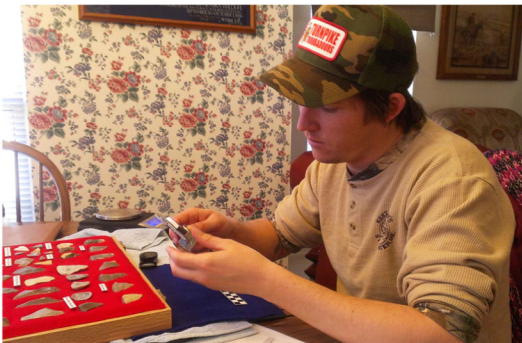
The Garrett Allen site is a stratified archaeological site in Carbon County, Wyoming. The site has a long history of excavation beginning with George Frison's initial test in 1969 and subsequent work by the Wyoming Archaeological Society, the U.W. Archaeological Field School, and the Wyoming Office of the State Archaeologist. The site caught the attention of UWAR curator, Dr. Jody Clauter, because it contains ceramics. Dr. Clauter received funds to provide additional chronological control on the site, including dates on residues from ceramic vessels. Results include a Late Plains Archaic date from a feature associated with Pelican Lake points, and a Late Prehistoric date from vessel residue.



Woodland vessel sherd from the Garrett Allen Site which produced a Late Prehistoric ¹⁴C date.

William Tyrrell Fund

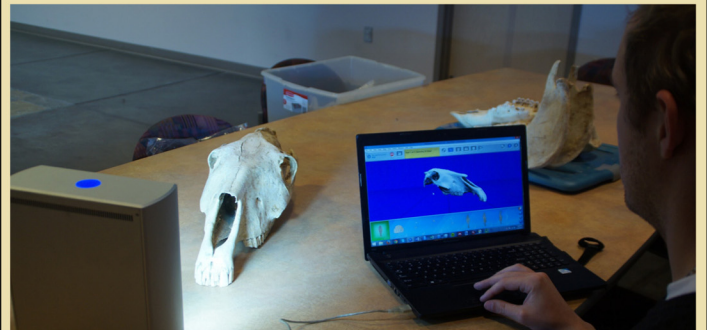
M.A. student Joshua Boyd received a grant from the Institute's William Tyrrell Fund to examine Folsom mobility and technology through endscraper morphology. Josh traveled to North Dakota to analyze endscrapers from the Lake Ilo Folsom sites. He has previously examined artifacts from Folsom sites in Texas, Colorado, and Wyoming, amassing the most comprehensive database of Folsom endscraper morphology created to date. Josh will explore how variation in Folsom mobility is reflected by variation in this class of artifacts that has received relatively little prior attention.



Josh Boyd analyzes a collection of Folsom endscrapers.

Patrick Orion Mullen Fund

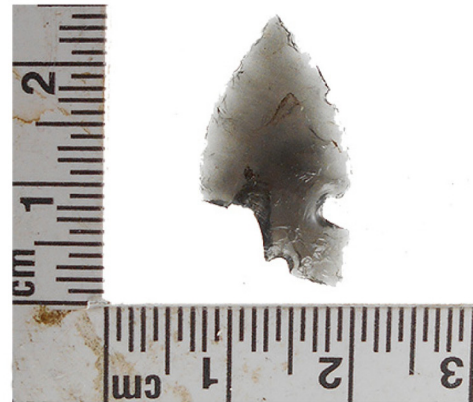
We awarded our first grant from the Patrick Orion Fund in Archaeological Science to PhD student William Taylor of the University of New Mexico, Patrick's undergraduate alma mater. William's research focuses on the development of techniques for the identification of horseback riding using a 3D scanner to measure skulls from wild and domestic horses in Mongolian museum collections. He has studied horses from the late Bronze Age for evidence of their use in riding and chariotry. With funding from the Frison Institute, William submitted a horse tooth which was associated with bronze bridle equipment for radiocarbon dating; this produced an age of 795-542 cal. BCE, ranking among the oldest direct evidence for horseback riding in the Eastern Steppe. These horses displayed riding pathologies, and point to a role for Mongolian cultures in the initial spread of the domestic horse into East Asia. Results of his project will be published in an upcoming issue of *Antiquity*.



William Taylor uses a 3D scanner to analyze a horse skull.

Alpine Archaeology Fund

The Institute provided Alpine Archaeology funds to Dr. Larry Todd for sourcing of obsidian artifacts from high altitude sites in the Absaroka Range of northwest Wyoming. These sites were discovered after wildfires exposed cultural resources that were previously undiscovered. Using the X-ray fluorescence technique to trace obsidian artifacts to their geologic source areas, Dr. Todd will be able to examine differences in mobility and settlement among three drainages high in the Absarokas.



Late Prehistoric obsidian projectile point from the Absaroka Range.

FEATURED PROJECT:

THE DUKHA ETHNOARCHAEOLOGICAL PROJECT



A Dukha reindeer herder summer camp in August 2013

Mapping People in Their Living Space

By Todd A. Surovell

I have spent the great majority of my career studying dead people, or more often dead people's trash. There are at times, however, reasons for archaeologists to shift our focus to the living, and by doing so, hopefully, we are able to develop tools to help us understand the archaeological record, what is known as ethnoarchaeology. Two years ago, with Dr. Matthew O'Brien, a graduate of the U.W. M.A. program and faculty member at California State University, Chico, I initiated the Dukha Ethnoarchaeological Project, which received seed funding from the Frison Institute in 2012. We have since received funding from the Fulbright Program and the National Science Foundation.

For many years, I co-directed excavations at the Barger Gulch Folsom site. Our research interests there centered on the spatial organization of a winter campsite in a valley in the Colorado Rockies. Although spatial patterns were abundant at the site, understanding how those patterns translated to past human be-

havior was complicated. It became apparent to me that we know very little about how people use space on small scales, for example, how people might be expected to use space within a household or around a fire.

This problem inspired the idea to study living nomadic peoples and the spatial organization of their behavior. I wanted to understand how people decide where to do what they do, and how those decisions should be manifested in the archaeological record. Because I work in Wyoming and Colorado, I wanted to study a nomadic people in a temperate environment. This led me to the Dukha reindeer herders in northern Mongolia.

The Dukha are fully nomadic herders, hunters, and gatherers, who live approximately 40 miles from the border of Russian Siberia. In Dukha campsites I map people and activities in interior and exterior spaces. My current interest is in examining how the spatial distribution of behavior changes seasonally with the goal of developing methods for determining the season of occupation of archaeological sites.



A Dukha fall camp in September 2014. Two families lived here from mid-August until the end of October. The household on the left side of the image was home to Institute Director, Todd Surovell, and research assistant, Willa Mullen.



A Dukha woman rehydrates a dried hide with a mixture of flour and water, so it can be finished by scraping.



Father and son beginning the three day journey to town, during which they will ride more than 40 km.



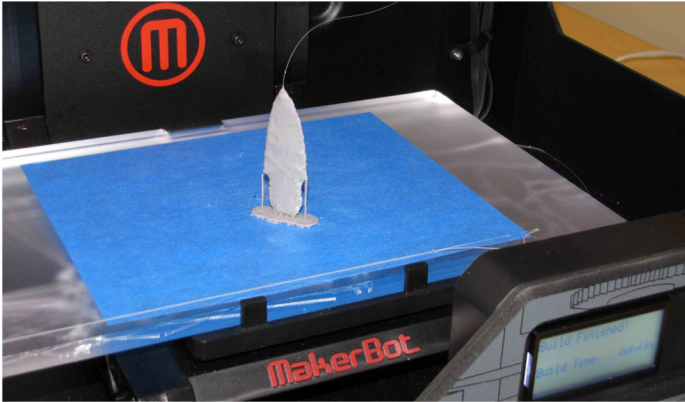
Packing out of the taiga in late October 2014. Reindeer are well adapted to travel in deep snow, even carrying heavy loads.



Moving to fall camp in 2013. When you are too small to help mom and dad pack the deer, there is little to do but wait.

Printing Archaeology in 3D

The Frison Institute provided funds to Drs. Jim Ahern, Melissa Murphy, and Rick Weathermon for the acquisition of a 3D printer for use in the Department of Anthropology. A MakerBot Replicator 2 printer was purchased during the fall of 2013. This printer extrudes a bioplastic filament in fine layers to print objects in three-dimensions. The printer can be used to produce replicas of human remains, hominin fossils, artifacts, architectural models, and even models of archaeological sites. Replicas can be made at low cost compared to the purchase of high quality casts. Printed objects can be used in research, teaching, and public outreach. As digital 3D models become increasingly available online, the range of potential applications of this technology will undoubtedly expand.



Printing a stemmed Paleoindian point with the new 3D printer.

Surveying the Tetons

With support of the Institute through a generous donation by Ed and Shirley Cheramy, Matt Stirn and Rebecca Sgouros of the Jackson Hole Historical Society and Museum launched the Teton Archaeological Project to examine how the level of past occupation in the Tetons compares to the Absaroka and Wind River Ranges. With students from U.W. and the University of Montana, Stirn and Sgouros conducted two surveys, which targeted high elevation basins, passes, and melting ice patches. The team recorded 28 archaeological sites above 9,000 feet ranging in time from the Late Paleoindian to the Early Historic period. Highlights include the discovery of two possible late-prehistoric alpine villages, a complete soapstone vessel cached between boulders, and the first high-elevation ceramic scatter.



Rebecca Sgouros surveys the margin of an ice patch in the Tetons.

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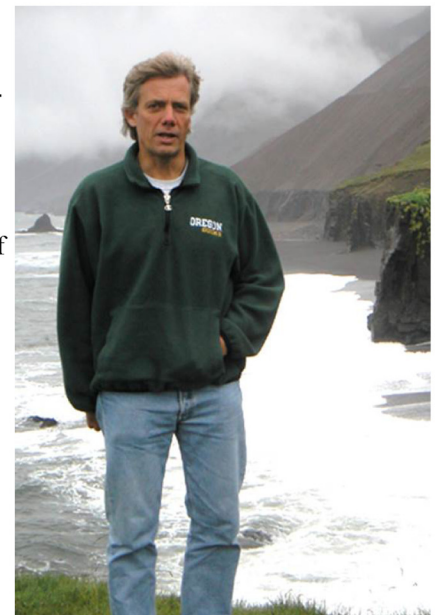
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Institute Fall Lecture

This year's Fall Lecture was given by **Jon Erlandson**, the Executive Director of the Museum of Natural and Cultural History and Professor of Anthropology at the University of Oregon. Drawing on information from a variety of different sources, Institute Annual lecturer Dr. Erlandson discussed the evidence for a western coastal migration as the New World's first colonization wave some 15-16,000 years ago.





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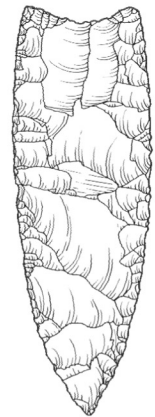
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