

*Paleontology Field School at Bighorn Basin
in Wyoming*



Notes from the Field

the department of
Anthropology

State of Expedition

Colorado State University



FALL 2014

Faculty in the Field

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The Key to an Empire

The sublime sounds of a jingling rattle silenced for more than 500 years helps tell the story of an ancient civilization in western Mexico, and ties together more than seven years of research by a team of researchers led by Dr. Chris Fisher.



insights into the funerary practices of the ancient Purépecha. The burials were discovered within a large plaza dominated by a traditional Purépecha keyhole-shaped pyramid and associated large altars. Most of the burials – numerous incomplete skeletons, along with evidence of cremations – were discovered in “flexed” positions, either in formal small tombs or in pits.

The ancient city, which covers more than 12 square kilometers, is located at 7,000 feet above sea level, and four hours northwest of Mexico City.

The excavations are part of *Legacies of Resilience: The Lake Pátzcuaro Basin Archaeological Project*, which is a long-term multidisciplinary effort to understand the development of complex societies in the region.

Archaeologists, geologists and geographers from the United States and Mexico on this project are funded by a grant to Fisher and Dr. Stephen Leisz from the National Science Foundation, a grant to Fisher from the National Geographic Society, and private donors. The Legacies project is based at CSU and the Centro de Estudios Mexicanos y Centroamericanos (CEMCA) in Mexico City.

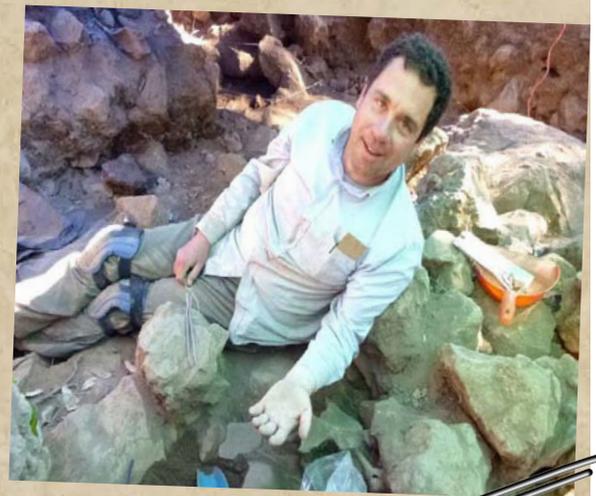
The rattle Dr. Fisher found

Fisher and a team at Angamuco found the copper and bronze rattle in a pre-Hispanic city in the Mexican state of Michoacán. Fisher’s team also discovered the complete skeletal remains of 37 individuals, and many partial burials of both sexes ranging from infants to adults.

“The discovery of this mortuary complex provides a unique lens through which we can examine changes in health, status and well-being during a period of rapid social change that is associated with the formation of the Purépecha Empire,” Fisher said. “This is the key to putting all of this research together - like almost eight years of survey and excavation. It’s a representative sample of the population that can be dated and examined, so it really completes our view of this ancient civilization and the occupation of the site.”

The Purépecha were contemporaries and rivals of the Aztecs in central Mexico, and considered the most advanced metalsmiths in the region. Like the Aztec, the Purépecha Empire was destroyed following European occupation in the early 1500s.

The discovery of the cemetery provides new



Dr. Chris Fisher at the dig site

Archaeology Field School News

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From the Plains to the Peaks

The CSU Archaeology Field School was a great success this summer. The theme of the program was “From Plains to Peaks”, and it was designed to provide students an opportunity to document a variety of ancient Native American sites across the state. These sites ranged from only a few hundred years old to those dating back to the end of the last ice age. Through a mix of research and focused learning, the students employed a variety of methods and theory in their work. The results of their efforts are incorporated into the ongoing research at the Center for Mountain and Plains Archaeology (CMPA), led by Dr. Jason LaBelle.

Roberts Ranch

The first session investigated human adaptations within the short grass plains and foothills. Students learned to identify small items such as stone tools, flakes, and ceramics, as well as larger habitation features such as stone circles. You can read more about their work with Masters student, Halston (Hallie) Meeker, in our *Graduate Research in the Field* section. The Archaeology Field School is grateful to the Roberts family for their continued hospitality and permission to work on their land.

In addition to the sites on Roberts Ranch, the students also visited sites in the grasslands and foothills ecosystems, including trips to Pineridge, Fossil Creek Wetlands, Soapstone Prairie Natural Areas, and Pawnee National Grassland.

Young Gulch

The field school's second session focused on Young Gulch, an Early Ceramic period (1000+-year-old) food preparation site near the Ansel Watrous campground in the Cache le Poudre Canyon. The river and its tributaries were important travel corridors for local peoples. The students salvaged a large thermal feature that was in danger of eroding into the Poudre River. Chipped stone flakes and pottery pieces found at the burial level indicated an ancient kitchen area. Students also uncovered parts of a bison leg, suggesting that bison were either hunted in the canyon in the past, or transported there from the eastern grasslands. During the session, Dr. Rich Wilshusen (The Colorado State Archaeologist) and Sue Struthers (Cultural Resources Director for the Arapaho/Roosevelt National Forest) joined them. At the end of the session, the field school went on a road trip to Dinosaur National Monument, and examined Fremont villages and rock art near the Green River in eastern Utah. They were joined by former Dinosaur Monument archaeologist, Jim Truesdale.

Niwot Ridge

The final session was spent on Niwot Ridge, a UNESCO Biosphere Reserve located west of Ward in Boulder County. There, the crew recorded historic and prehistoric sites, with the oldest site dating back to the Late Paleoindian period over 9,000 years ago. The field school conducted its work in cooperation with the Paleo Cultural Resource Group, under the direction of Dr. Mark Mitchell, and was assisted by CMPA/CSU graduate student, Christopher Johnston. During this session, the crew also visited archaeological sites in Rocky Mountain National Park and Estes Park, including the Trail Ridge game drive and Old Man Mountain.



Field School Award Winner

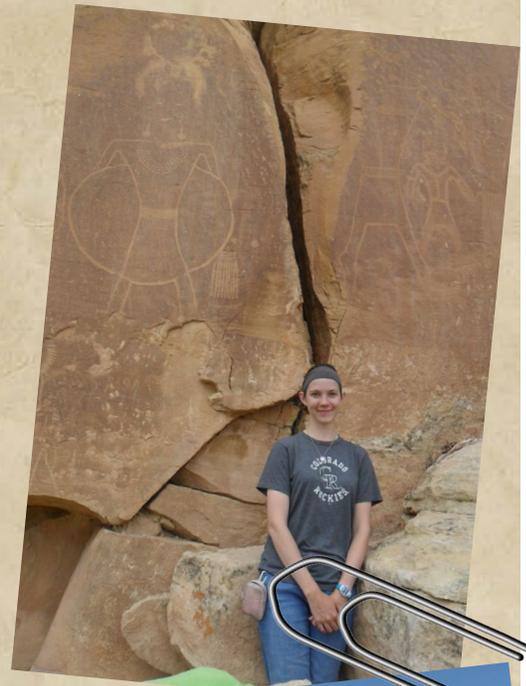
State of Expedition

Archaeology Field School

Christina Burch

To put it plain and simple, the 2014 CSU Archaeology Field School was easily one of the best times of my life. I know that without the support of CSU and the award I received, it would not have been possible for me financially to experience this wonderful chance to learn. As a member of the field school crew, I received the privilege to work in three beautiful areas of Colorado and to learn about Prehistoric and historic sites all around the Colorado Front Range area, even into Utah and Wyoming. Through the teaching of Dr. LaBelle and Teaching Assistant Hallie Meeker, I learned all of the required skills to become a professional archaeologist. Just some of these skills included how to prepare for field work, survey a site, test, excavate, and record different types of data; employing different sampling strategies and techniques for each skill at different sites. With this experience on my *curriculum vitae* (similar to a resume), I feel confident that I can now go into a successful career as an archaeologist; that is, once I graduate, of course. I, hands down, recommend any student who is even considering a future in Anthropology to look into taking the CSU Archaeology Field School. It is like no other experience you can get from a regular class. I want to thank the Anthropology Department for helping me reach my dreams by choosing me for this award.

Christina Burch



Roberts Ranch



The team at Vernal, Utah



Paleontology Field School News

State of Expedition

Paleontology Field School Finds Rare Skeleton

Kim Nichols excavates the skeleton at Bighorn Basin



Nichols prepares one of the feet from the skeleton in the Paleontology Field School lab



One of the best parts of our Paleontology Field School is being able to pick fossils right off the ground. At Bighorn Basin in Wyoming this summer, there were plenty to be found, including one incredible find.

On a typical day, students usually find teeth, bone fragments, and if they're very lucky, a complete mandible. No matter how small the find seems, every fragment is an important contribution to growing knowledge about the ecosystem of the early Eocene era.

This season was particularly rewarding because Field School Coordinator, Kim Nichols, discovered much of a semi-articulated fossil skeleton of a small, housecat-sized mammal. Even more impressive, she discovered it on the second day of surveying. Over the course of several days, her students assisted in the recovery of additional pieces of the skull, and other elements of the skeleton such as forelimbs and hindlimbs.

It's extremely rare to find even this much of a skeleton, especially for a small creature like this one. "Why was this one preserved so well? I have no idea," said Kim Nichols. "It was just good fortune. I have to tell you, this was the find of my life. I was just thrilled."

The fossil identification was confirmed by Dr. Tom Bown and Dr. Ken Rose as a *Paleanodon*, a small anteater-like creature. It will take about a year to prepare the skeleton.

The CSU Paleontology Field School Collection is catalogued into the Denver Museum of Nature and Science Vertebrate Paleontology Collection. The collection is maintained at CSU for undergraduate research projects.

Field School Award Winner

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Paleontology Field School

Jenny Fenner

This summer I decided to take ANTH470, which is CSU's Paleontology Field School. I can honestly say it was the best course I have taken at CSU thus far. I got to spend two weeks in Wyoming looking for Eocene fossils and camping with other anthropology students. The paleontology field school was fantastic for me because it allowed me to get in field experience handling and identifying fossils as well as cataloging them. In addition to having lectures about the fossils and what was going on in the Bighorn Basin during the Eocene, I was able to actually find some fossils of the extinct taxa that we were talking about in class. I found a lot of *Coryphodon* fossils, which are massive extinct swamp cows with giant tusks. We also found multiple primate fossils as well as some ancestral horse fossils. Every day, we would go to sites in the Bighorn Basin and we would use what we had learned in class about taphonomy and geology to locate new fossils. The best thing about my field school experience was finding new fossils each day, **because finding a new fossil was like opening presents on Christmas morning**, you have no idea what fossil you're going to find but it's super awesome to find it. Overall, field school was the best part of my summer and the best part of my classes at CSU because I got to meet and hang out with other anthropology majors while studying fascinating new fossils that I found.



↑ Bighorn Basin



Jenny with a tooth that she found →

Ethnographic Field School News

State of Expedition

Mitakuye Oyasin

In South Dakota, visitors often hear the phrase “Mitakuye Oyasin”. It is a Lakota saying that means “all my relations” or “all are related”, and it is something that informs the way our aspiring social scientists do their work with the Ethnographic Field School.

This year, nine students had the unique opportunity to use truly applied ethnographic methods with the Ogalala, Minnecoujou, Oohenunpa, Itazipxo, Si Sapa, and Sicangu bands of the Lakota. “One of the benefits of the field school is that it’s firmly embedded in a participatory approach. It’s working with the locals on issues that they find pressing,” says Josh Shaughnessy, a Cultural Anthropology Masters student.

The students not only gained experience doing statistical analysis, and administering surveys; they also learned how to re-side houses, and how to plan events in order to help the communities they were working with.

“We go from conducting surveys with businesses and organizational report writing to fixing up an arbor at a pow-wow grounds to photographing the pow-wow and creating brochures to pass out to the community so they know where and when it is,” said Field School Co-Coordinator, Michael Brydger. The connections they made learning and doing these things helped them with the analysis of their surveys. If a student was doing a project on creating a sustainable economic model for art-based tourism, for example, these connections are crucial in finding all the artisans in the community that would be impossible to get alone.

Like the Lakota say, all are related, and to help a community get the data that is needed for long-term questions, it was imperative for the students to forge connections in all aspects of the Reservations.

The field school was very successful with their

collaborative efforts. On the first day, students were invited to a sweat lodge after helping the communities cut down trees for them. Sweat lodges are sacred experiences rarely offered to outsiders, and require a great deal of trust, so the field school was immensely grateful to participate. According to Andrea Akers, Field School Co-Coordinator, “The students completed research projects from start to end: they conducted surveys and interviews, entered data and transcribed interviews, analyzed all of this data, and generated the reports for the communities we work with.” The field school provides hands-on use of both qualitative and quantitative data collection, statistical analyses, and reporting all within a culturally and socially embedded collaborative structure.

CSU’s Ethnographic Field School is unique because in addition to the credits students earn, they also can put an internship with Sweet Grass Consulting, LLC (a community building and assessment services consulting firm started by two CSU alumni, Andrea Akers and Michael Brydger) on their resume, giving them a leg-up in starting a career when they graduate.

*Sesugh Tor-Agbidye helping Mni
water management at Cheyenne
River*



Field School Award Winner

State of Expedition

Ethnographic Field School

Josh Shaughnessy

Earlier this summer, I participated in the 2014 CSU Ethnographic Field School. This six-week field school was a joint venture between CSU and Sweet Grass Consulting, LLC. The field school was located on Pine Ridge Indian Reservation and Cheyenne River Indian Reservation. During this time, we participated in poverty reduction ventures, business and workforce development projects, and helped a grassroots water restoration non-profit. We created and administered surveys to local businesses, performed data analysis on a several projects, transcribed stories and applications, and helped install water retention dams. As a group, we wrote a report detailing the current business situation on Pine Ridge Reservation in order to focus where businesses could participate in workforce development programs.

In addition to working with local initiatives and programs, we were given the opportunity to live with several tribal members, listen to their stories and experiences, and help out wherever we could. We replaced siding, stained a deck and a log cabin, and built a large octagonal shade. These experiences were also incredibly valuable, not only for the skills learned, but for the opportunity to live and work in a different culture. Their knowledge, stories, and experiences were an integral part of this field school. Not only was I able to learn valuable anthropological skills, including database management, survey administration, and data analysis, but I was also able to learn about water conservation, carpentry, ethnobotany, Lakota culture, and grassroots initiatives. This experience has left me with a multitude of professional skills and knowledge that will last me a lifetime.

Josh Shaughnessy



Group photo at Walter Littlemoon's home

The field school helping cut down poles for sweat lodges



Apply for a Field School Award

With a generous contribution from anthropology alumna, Katy Little, the Anthropology Department offers three Field School Awards to help students get this vital education. Find out more about these, and other scholarships we offer here:

<http://anthropology.colostate.edu/scholarships/>



Archaeology Field School explores important sites around the West

Ethnographic Field School in the Black Hills of South Dakota

Paleontology Field School in Bighorn Basin, Wyoming



Amanda Jones Field Study Abroad Award

In honor of CSU anthropology alumna ('13) Amanda- 'Mandy'- Jones, the Department of Anthropology is pleased to invite applications for the Amanda Jones Field Study Abroad Award. Amanda was an anthropology major with a keen interest in applied work. Her desire was to learn about other cultures by working in conjunction with communities to build sustainable futures. She participated in a field program for applied anthropology in Peru and found the experience to be one of the best of her undergraduate career, one that took her beyond the borders of the United States, and brought her anthropology training to life. The Amanda Jones Award will provide a \$5,000 award to defer costs of an international field school or program in applied anthropology.



<http://anthropology.colostate.edu/scholarships/>

Mandy Jones
1991-2013

Graduates in the Field

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Using Tipi Rings to Understand the Past

Previously excavated by CSU in the 1970s and 1980s, Archaeology MA student, Halston (Hallie) Meeker, researched Killdeer Canyon and T-W Diamond with the CSU Archaeology Field School run by Dr. Jason Labelle this year. The tipi rings in the two sites may only be 1.2 kilometers apart, but they are separated by 500 years, and are very different in site size, and location in the landscape. They represent two occupations that correspond with changes in land use between the Middle to Late Ceramic periods (AD 1150-1860). Tipi rings, or stone circles, represent the remnants of prehistoric residential structures and offer clues to archaeologists about mobility patterns and life ways.

The different locations of tipi ring sites, along with their associated artifact assemblages, will help Meeker study whether these hunter-gatherer groups were local or from further away, and will contribute to our understanding of landscape use, and seasonal migrations of Native Americans in northern Colorado.

Currently, data from this summer is being analyzed and processed in the Center for Mountain and Plains Archaeology Laboratory. Students who were in the field school, or are interested in archaeology, will have the opportunity to work with this information to gain lab experience. The lab work Meeker is engaged in includes counting and measuring stone and bone artifacts, looking at tipi ring drawings, and researching different rock resources near the prehistoric sites that may have been used to make tools.

Hallie Meeker directs the Field School at Killdeer Canyon

Kristen with OGAP staff member, Frank Mataro



Butchery at Olduvai Gorge

Biological Anthropology MA student, Kristen Welch, spent her summer in one of the most coveted Paleolithic research sites in the world, Olduvai Gorge in Tanzania. There, paleoanthropologists can find some of the earliest evidence of human evolution.

As part of the Olduvai Geochronology and Archaeology Project (OGAP), Welch assisted Dr. Michael Pante with the examination of fossil material. She also directed experimental butchery events to investigate cutmark patterning as it relates to the skill level of a butcher.

Cutmarks indicate some of our ancestors earliest activities, and are key to understanding how and what they ate. From this, we can get a glimpse of what behaviors impacted our ancestor's survival.



Prehistoric Peoples at High Altitudes

Ben Perlmutter, an Archaeology MA student studying under Dr. Jason LaBelle, spent the summer working in southern South Park, Colorado. His work was broadly aimed at exploring how prehistoric peoples utilized different areas of the this high-altitude landscape.

This ongoing research is important to understanding what factors motivated people from different geographic regions to travel to South Park, and how these land use patterns persisted throughout prehistory and even into modern times. One of the many highlights of his work this summer was the recording of an exceptionally large residential base camp on the historic Salt Works Ranch; it included several dozen projectile points reflecting an occupation that spanned nearly 10,000 years, diverse and abundant flaked stone tools, and several hundred pieces of ground stone artifacts.

The excavation was conducted in association with the South Park Archaeology Project, and the South Park National Heritage Area, CSU anthropology alumni, Chris Davis, and a dedicated crew of local volunteers. By using local volunteers, they are beginning to engage the public in the stewardship of Park County's local archaeological record.

Land Use Change in Southeast Asia

This summer, Dr. Stephen Leisz, Geography MA student, Eric Rounds, and researchers from the Hanoi University of Agriculture collected data to identify the impact of the developing East West Economic Corridor (EWEC) on the land use and land cover and livelihood systems in Central Vietnam, Southern Laos and Eastern Thailand. The EWEC is an economic development program that aims to develop and integrate Myanmar, Thailand, Laos and Vietnam. This summer's research focused solely on the section of the EWEC in Quang Tri Province of central Vietnam.

Their work provides original research on a region that is developing quickly, and on people who are adapting their livelihoods to demands from local and foreign markets. Utilizing various GIS and remote sensing tools and methods, they analyzed satellite imagery to identify land use/land cover change over recent decades.

While much work remains to be done for this project, they saw a clear impact of road development on rural livelihoods and agricultural systems. Government policies, market demand, and increasing accessibility to land are some of the drivers of change they documented and plan to investigate further.

Flagged sites ready to be recorded



Eric Rounds with the research team and villagers } Dr. Stephen Leisz



Undergraduates in the Field

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Luke Weaver's Wyoming Summer

Some might think spending a summer in Wyoming's Bighorn Basin would be hot, and dusty. But for anthropology senior, Luke Weaver, it was well worth it. With Johns Hopkins University's Dr. Ken Rose, as well as Dr. Amy Chew, he worked on a time period dating back to the earliest Eocene. It's a period that is poorly documented, yet it appears to be a time in which global temperatures were spiking and the climate was shifting. The fossils collected will help determine how mammals responded to these temperature increases, and whether or not they can act as a proxy for modern climate change. Luke is a graduate of the ANTH470 Paleontology Field Course, and this resulted in the opportunity to participate on this primary research project.



*Luke at Mowry Shale
in Wyoming*

Ashley Packard in Illinois

It's hard not to be proud of our department when you find out the amazing things our students are doing. Archaeology student, Ashley Packard, was in Illinois excavating the Lawrenz Gun Club Site with the Research and Education for Undergraduates Program through the National Science Foundation at Indiana University - Purdue University Indianapolis.

The largest Mississippian Culture site in the central Illinois River Valley, this year's work at the site focused on a section of the palisade surrounding the village and a burnt house. Using ground penetrating radar, they found four mounds that surround a civic/ceremonial center.

"The image produced by the magnetometer is really incredible," Ashley said. "It showed multiple construction episodes of the palisade around the site as well as other structures, such as houses."

Ashley also worked to collect lake cores from Anderson and Avery Lakes, which will be used to reconstruct the paleoenvironment during the time the site was occupied.

The work Ashley contributed to will be presented at the 2014 Midwestern Archaeological Conference, so look forward to seeing it there.



*Ashley (left) after a
hard day at work*