

Sacramento Archeological Society, Inc. Newsletter

www.sacarcheology.org.

July/August - 2021

UPCOMING EVENTS

<u>July 10, 2021</u> - Saturday, 2:00 p.m. PDT - SAS Webinar "*The potential of Obsidian Hydration Dating for Titicaca Basin archaeology*" by Luis Flores Blanco, Peruvian Archaeologist, PhD student, University of California, Davis

July 17, 2021 – Saturday, 2:00 p.m. PDT - SAS Four Corners Tour Zoom Meeting for tour participants

<u>July 24, 2021</u> – Saturday, 1:00 – 6:00+ p.m. PDT – Third Annual SAS Pool- Party/Pot – Luck/ Social at Dan and Victoria Foster's new home, RSVP <u>calfirearchy@gmail.com</u> or 279-444-2099.

<u>August 14, 2021</u> - Saturday, 2:00 p.m. PDT - SAS Webinar "Robberg Technocomplex at Western Cape, South Africa" by Sara Watson, PhD candidate, University of California, Davis

September 12-25, 2021 – SAS Four Corners Tour led by Jan Johansen and Diane Sangster

See announcements: <u>https://sacarcheology.org/announcements/</u> for **webinar access information** and calendar: <u>https://sacarcheology.org/archaeology-activities/calendar-of-events/</u> for the complete set of events in our website: <u>www.sacarcheology.org</u>.

SCHOLARS ANNOUNCED 2021 Scholars

Sacramento Archeological Society, Inc. is pleased to announce our 2021 scholarship recipients. We awarded eight scholarships to scholars from University of California Davis, University of California, Merced and NYU. The students were truly worthy. Three of the recipients were graduate students and five were undergraduate students. The supported projects included attendance at field schools and basic research.

Thanks to the SAS members who contributed funds so that we were able to financially support these scholars. Presentations by the scholars will be scheduled in 2022. A brief synopsis of the recipient's archaeological projects follows:

Marcela Barron

Marcela is a Graduate Student at the University of California, Davis. This award will support her research to determine seasonality and harvesting practices for a pre-contact site in Monterrey, California (CA-MNT-12). This site was excavated by archaeologists in 2012 and although bulk soil samples were collected from the shell midden deposit, no seasonality studies were undertaken. She will have the opportunity to test shells from this site using oxygen isotopes in order to estimate the seasonality of the shell-collecting practices. Determining what seasons people harvested shells are key to a better understanding of resource exploitation throughout the year. In coastal sites, changes in water temperature affect the ration of oxygen isotopes in shell. For this study, then California mussel (*Mytilus californianus*) shells will be tested on the terminal growth edge, the part of the shell that was growing at the time of harvest. By also testing growth layers that formed before harvest, they can determine whether water temperature was increasing or decreasing at the time of shell harvest, providing an estimate of the season of death. In addition, one of these shells will be radiocarbon-dated to estimate age, and to help place the seasonality information in chronological context.

Sean Begg

Sean is a senior at the University of California, Davis. This award will support his participation in the excavation of the Pech IV site located in the Dordogne River Valley in southern France this summer. The caves were occupied by Neanderthals during the Lower and Middle Paleolithic periods. The site is particularly important because it contains early evidence of the controlled use of fire. The hearths in the bottom layer have been dated to Marine Isotope State 5c - around100,000 years ago. Interestingly, there is little evidence of fire use in the subsequent layers.

Marlena Billings

Marlena is a sophomore at the University of California, Davis. This award will support her research of rondelles. Artistic objects from the Upper Paleolithic Magdalenian culture (ca. 15-13,000 BP) known as rondelles are often described with particular focus on the figurative engravings on their surfaces, but their chaine operatoire (or, technical stages of operation) have not yet been documented. Her research will involve measuring and taking high quality photos with magnification of several rondelles from the site of Mas d'Azil, housed in the National Archaeological Museum in France. The photos and measurements of these artifacts will be used to complement and inform her experimental archaeological project being undertaken by the Center of Experimental Archaeology at Davis, where she has been experimentally reproducing disk production and wear.

Caleb Chen

Caleb is a recent graduate from University of California, Davis and a recipient of an unused 2020 scholarship because of COVID. He will be attending New York University this fall. His project is to collaborate with Dr. Justin Pargeter (NYU) and Dr. Metin Eren (Kent State University) to make blades copying South African archaeological examples in various rocks. In experiments, backed and unbacked blades and retouched flakes will be transversely hafted as projectiles and fired manually and mechanically into clay targets until hafting and bonds fail. Blades will be mechanically compressed and pulled apart until bond failure to determine whether backed implements adhere longer to their hafts than their unbacked counterparts. The results of this

study will be published; thereby extending our understanding of hunter-gatherer technological adaptations and evolution.

Kiana Hugins

Kiana is a senior at University of California, Merced. She will use the scholarship to support attendance of Fresno State's Field School, where she has been promoted from crew member to unit supervisor. This field school serves her interests in studying the transformation that colonialism had on North America's ecosystems and how the process impacted Indigenous cultural perceptions.

Morgan Hall

Morgan is a junior at University of California, Davis. She had hoped to attend the UC Davis sponsored field school in the Humboldt-Toiyabe National Forest last year but the school was cancelled. She obtained a scholarship last year but because of the cancellation she was unable to use it. This year she will be attending the same Humboldt-Toiyabe National Forest field school at the site of Tunna 'Nosi' Kaiva' Gwaa Wada. The goal of this research is to study the cooperative hunting events through examination of large scale trap complexes and rock rings using pedestrian surveys, excavation and laboratory analysis. The site is especially rich in surface-level lithics and they hope to use obsidian hydration and x-ray fluorescence to date the site.

Kumari Parinita

Parinita is a senior at University of California, Davis. She will also be attending the Humboldt-Toiyabe National Forest field school at the site of Tunna 'Nosi' Kaiva' Gwaa Wada. As an archaeology student she will benefit from this experience by learning techniques for pedestrian survey, surfaces mapping of cultural features, excavation and laboratory analysis

Sara Watson

Sara is a fifth year graduate student at University of California Davis. She has been conducting archaeological research in South Africa since 2015 as a McNair Scholar. She will use this scholarship to support her analysis of Middle Stone Age lithic assemblages from the site of Nelson Bay Cave, South Africa (~130-40 ka) which are curated in the Chicago Field Museum, as part of data collection for her dissertation research.

UPCOMING EVENTS Third Annual SAS Pool-Party/Pot-Luck/Social Saturday, July 24, 2021

1:00 - 6:00 + p.m.Dan and Victoria Foster's home

After over a year of seclusion due to Covid let's get together for a social. Dan and Victoria Foster have offered their home for this event.

Bring your favorite dish and swimming suit. Please **RSVP** to Dan Foster at <u>calfirearchy@gmail.com</u> or (279) 444-2099. There will be plenty of parking close to their house. Dan will prepare a map showing the best places to park (really close to their home). A reminder with Dan and Victoria's address will be provided before the event.

Friends are welcome and also invited to join our organization.

SAS Webinar Saturday, July 10, 2021 2:00 p.m.

"The Potential of Obsidian Hydration Dating for Titicaca Basin Archaeology"

by Luis A. Flores-Blanco, PhD student at UC Davis

A projectile point chronology for the South-Central Andes currently provides some chronological control for dating sites in the region (Klink and Aldenderfer 2005), however, flakes, many of them of obsidian, are the most common type of lithic material recovered from the surface of Archaic and Formative period sites in the Titicaca Basin, Central-South Andes. Obsidian hydration dating (OHD) can be used to date them and thus help to know the temporality of the sites, and obsidian is a very frequent material. Despite that OHD has been used in some Andean regions (e.g., Eerkens et al. 2008; Tripcevich et al. 2012, Bell 1977), it is not currently used in that region because a calibration curve does not yet exist. Luis' immediate goal has been achieved. He has learned this technique, acquired the appropriate equipment installed in Peru to obtain the samples, and has been able to identify the hydration bands in a small obsidian sample of the Titicaca Basin. From these preliminary results, he will show the great potential that the use of OHD has for Andean archaeology and that continuing with the construction of an OHD calibration curve in the Titicaca Basin is feasible.

Luis A. Flores-Blanco, a Peruvian archaeologist is currently pursuing a PhD at the University of California, Davis. He received a Masters in Prehistoric Archaeology at Complutense University of Madrid, Spain after receiving a Bachelor of Archaeology at the University of San Marcos in Peru. He has been a productive scholar publishing peer-reviewed articles and editing volumes on Peruvian archaeology. He has been co-director and director of archaeological excavations at Puno and Lima, Peru. Before joining the Anthropology PhD Program he was director of a research center at the UNESCO world heritage site of Chavín. In his current studies, Luis is attempting to understand emergent social complexity in the South-Central Andes and proposes to develop an obsidian hydration curve for his study region. His dissertation is titled "The roots of the social inequality in Peru's Lake Titicaca Basin 4000 Years Ago".

Friends are welcome and also invited to join our organization. There is no participation fee. The webinar will start at 2:00. You may join starting at 1:30 to say "Hello". See announcements: <u>https://sacarcheology.org/announcements/</u> for **webinar access information**

SAS Webinar Saturday, August 14, 2021 2:00 p.m.

"The Robberg of Southern Africa: Late Glacial Lithic Technology" by Sara Watson, PhD candidate UC Davis

The Robberg technocomplex is one of southern Africa's most distinctive and cohesive technologies and found in cave and rock shelter sites across southern Africa at the end of Marine Isotope Stage (MIS) 2 and the Last Glacial Maximum. Since its early description, the Robberg Industry has typically been considered a relatively stable technology across southern Africa. However, focus on broad-scale similarities has masked temporal and spatial variability in Robberg technological organization. Recent research has focused on examining differences in Robberg technology, the meaning of which is still poorly understood. In this presentation, she will review the current state of research on the Robberg and present new case studies of lithic technology from Robberg assemblages in western South Africa and the south coast.

Sara Watson is a PhD student in the Department of Anthropology at UC Davis. She received her BA (Summa cum Laude) in Anthropology at University of Texas and a Masters in Anthropology at UC Davis. Her research focuses on human decision-making surrounding stone tool production 50,000 to 20,000 years ago in southern Africa. Her work thus far has resulted in two publications (one as first author), two manuscripts in review (one as first author) and three manuscripts in preparation (all as first author).

Friends are welcome and also invited to join our organization. There is no participation fee. You may join early at 1:30 pm PST and enjoy a social half hour. See announcements: <u>https://sacarcheology.org/announcements/</u> for **webinar access information**

Four Corners Archaeological Tour September 13-25, 2021

The archaeological exploration in the four corners area is still on schedule. All participants are invited to a **zoom meeting on July 17 at 2:00 p.m.** to review preparation details for the tour and receive an. overview of the sites to visit

Tour Details

This is a Members only event and attendance is limited. Reservations are accepted on a first come basis. This event is fully booked and a waiting list has been established. Many participants signed up last year for the tour that was cancelled. A reservation fee of \$50 per person is required with the reservation.

Participants are responsible for making their own lodging reservations, arranging their own transportation to and on the tour, and paying for their food, fees and incidentals.

The itinerary is subject to change at the discretion of Sacramento Archeological Society, Inc., but participants will be notified of significant changes in advance. All participants are required to sign a Hold Harmless Agreement with Covid attachment prior to the tour.

То receive information on the tour and make reservations contact Jan Johansen janjohansen@sbcglobal.net Also, send the registration fee of \$50 per person to Sacramento Archeological Society, Inc. at P.O Box 163287, Sacramento, CA 95816-9287 or use our web site https://sacarcheology.org/society-membership/sas-donations-and-membershippayment/.

PAST EVENTS

SAS Webinar – "Polynesian Contact with the Americas: An Update"

On May 8, 2021 we were honored to have **Terry Jones**, Department of Social Sciences, California Polytechnic State University and **Kathryn A. Klar**, emeritus University of California, Berkeley present evidence on the possibility of a prehistoric Polynesian contact with the Americas at the Channel Islands. Historians, archaeologists, and other scholars have considered the possibility of this contact for centuries. Specifically Alfred Kroeber suggested that cultural similarities between southern California and Oceania could be the product of prehistoric transoceanic diffusion. Polynesian sea craft and Channel Islands' boats suggest a technological interchange. Also linguistic similarities exist between Polynesian and Chumash languages. The idea that Polynesians may have visited the Channel Islands before European contact is thought provoking.

SAS Webinar - "The Olmec Cascajal Block through the Portable Portals"

On Saturday, June 12, 2021 Joanne Carpenter presented a video via Zoom on the Olmec, portable portals and the Cascajal Block. This self-created video highlighted information about the Olmec and by analyzing Olmec script presented a provocative theory about portable portals, a means for exporting religious ideas to their far flung trade network. She also discussed the Cascajal Block, a tablet-sized writing slab in Mexico made of serpentinite which has been dated to the early first millennium BCE. It is incised with hitherto unknown characters that may represent the earliest writing system in the New World. The Cascajal Block was first discovered in 1999 and refused as a possible connection to the Olmec; however many archaeologists are academically finding evidence to prove its arrival is connected to Olmec representation.

SAS Tour - A Taste of Nevada Heritage – Caves, Rock Art and Paiute Culture

On June 16 - 18, 2021 sixteen members of Sacramento Archeological Society, Inc. toured the basin areas around Sparks, Fallon and Lovelock, Nevada. John Foster and Dan Foster lead the exploration. In spite of the summer heat they hiked to find rock art and visit caves and rock shelters. On the first day they hiked in Sparks to enjoy the Griffith Canyon Petroglyphs. Then they drove to Fort Churchill State Historic Park to view the remnants of a historic fort.



Rock art at Griffith Canyon

On Thursday, June 17th Donna Cossette (Paiute) led the exploration of Grimes Point Petroglyphs and after viewing a movie on Hidden Cave at Churchill County Museum in Fallon continued offering a perspective on Paiute culture. Several members hiked to Picnic Cave, Hidden Cave and Burnt Cave.



Grimes Point boulder with petroglyphs



Group at Grimes Point/ Burnt Cave

On the final day near Lovelock, John Foster and Dan Foster led the group to Lovelock Cave and offered historical perspective. After going inside the cave and enjoying the geology of the area a segment of the group went to Leonard Rock Shelter. There they were pleased to see the beauty of nature in a tufa shelter and find rock art. All in all, the group ended the tour with expanded insight into the geological and cultural history of the area.



Lovelock Cave



Leonard Rock Shelter

For more photos from the tour see https://sacarcheology.org/archaeology-activities/sas-archives/

MEMBER'S CORNER

Welcome New Members

We welcome new member, Debra Brinson. We hope to see you in person soon,

We are pleased to acknowledge our major contributors for 2021. These donations help to support our scholarship program. **Patron (\$1000 or more)** Martie Lewis and Dennis Fenwick Carolyn and Gordon McGregor OSISoft - part of Aveva **Sponsor (\$100 - \$999)** Jeremy Johansen Jan and Tom Johansen

ARCHAEOLOGICAL REFERENCES

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The Dirt – A podcast for all ages and backgrounds about archaeology, anthropology, and our shared human story https://thedirtpod.com/

Recent Articles

The reviewed articles are:

- "How did early humans learn to count"
- "Earliest known human burial in Africa"
- "DNA from cave dirt traces Neanderthal upheaval"
- "No paleo diet here: Neanderthals loaded up on carbs"

"How did ancient humans learn to count?"

"Some 60,000 years ago, in what is now western France at a site of Les Pradelles near Angoulême, a Neanderthal picked up a chunk of hyena femur and a stone tool and began to work. When the task was complete, the bone bore nine notches that were strikingly similar and approximately parallel, as if they were meant to signify something. Francesco d'Errico, an archaeologist at the University of Bordeaux, France speculates that the carved artifact represents the ancient roots of numbers. The Les Pradelles bone is not an isolated find. For instance, during excavations at Border Cave in South Africa, archaeologists discovered an approximately 42,000 year old baboon fibula that was also marked with notches. D'Errico suspects that anatomically modern humans living there at the time used the bone to record numerical information." (Colin Barras, *Nature*, V 594, 2021-6-3 pp. 22-25)

"Earliest known human burial in Africa"

"The origin and evolution of hominin mortuary practices are topics of intense interest and debate. Human burials dating to the Middle Stone Age (MSA) are exceedingly rare in Africa and unknown in East Africa. In this article they describe the particle skeleton of a roughly 2.5 to 3.0 -year-old child dating to 78.3 ±4.1 thousand years ago, which was recovered in the MSA layer of Panga va Saidi (PYS) cave site in the tropical upland coast of Kenya. Recent excavations have revealed a pit feature containing a child in flexed position. Geochemical, granulometric and micromorphological analyses of the burial pit content and encasing archaeological layers indicate that the pit was deliberately excavated. Taphonomical evidence, such as the strict articulation of good anatomical association of the skeletal elements and histological evidence of putrefaction support the in-place decomposition of the flesh body. The presence of little or no displacement of the unstable joints during decomposition points to an interment in a filled space (grave dirt), making the PYS finding the oldest known human burial in Africa. The morphological assessment of the partial skeleton is consistent with its assignment to Homo sapiens, although the preservation of some primitive features in the dentition supports increasing evidence for non-gradual assembly of modern traits during the emergence of our species. The PYS burial sheds light on how MSA populations interacted with the dead." (Maria Martinón-Torres et al. Nature, V 593, 2021-5-6, pp. 95-100)

"DNA from cave dirt traces Neanderthal upheaval

First nuclear DNA from sediment shows turnover, migration among ancient cave dwellers in Spain"

"Geneticists, Benjamin Vernot and Matthias Myer from Max Planck Institute for Evolutionary Anthropology reported in *Science* that dirt from Estatuas has yielded the first nuclear DNA from an ancient human from dirt sediments. To date paleogenesticists have managed to extract ancient DNA from the bones or teeth of just 23 archaic humans, including 18 Neanderthals from 14 sites across Eurasia. In search of more, Vernot and Meyer's team sampled sediment from well-dated layers in three caves where ancient humans are known to have lived: the Denisova and Chagyrskaya caves in Siberia and Estatuas cave in Atapuerca, Spain.

They developed new genetic probes to fish out hominin DNA, allowing them to ignore the abundant sequences from plants, animals and bacteria. Then, they used statistical methods to home in on DNA unique to Neanderthals and compare it with reference genomes from Neanderthals in a phylogenetic tree. All three sites yielded Neanderthal nuclear and mtDNA, with the biggest surprise coming from the small amount of nuclear DNA from multiple Neanderthals in Estatuas cave.

Nuclear DNA from a Neanderthal male in the deepest layer, dating to about 113,000 years ago, linked him to early Neanderthals who lived about 120,00 years ago in Denisova cave and in caves in Belgium and Germany. But two female Neanderthals who lived in Estatuas cave later, about 100,000 years ago, had nuclear DNA more closely matching that of later, "classic" Neanderthals including those who lived less than 70,000 years ago at Vindija cave in Croatia and 60,000 to 80,000 years ago at Chagyrskaya cave. " (Ann Gibbons, *Science*, 2021-4-16 V 372 pp. 222-223)

"No paleo-diet here: Neanderthals loaded up on carbs"

"Neanderthals' mouths teemed with bacteria that break down starchy food, suggesting that a carbohydrate-rich diet has ancient roots in the human family tree.

An animal's diet, genetics and habits can all shape the diverse set of microscopic organisms in its mouth. To probe the history of humans' oral microbiome, James Fellows Yates at the Max Planck Institute for the Science of Human History in Jena, Germany, and his colleagues sequenced the genomes of microbes scraped from the teeth of primates and hominids, lineages of the tree of the life separated by 40 million years. This period encompasses humans' shift to eating farmed plants, and other changes that could have altered microbial diversity.

The team found the same ten types of bacterium in modern humans, Neanderthals, monkeys and apes, pointing to the animals' common origin. But Neanderthals and modern humans—both members of the genus *Homo*-- harbored bacteria that others did not, including a group of *Streptococcus* bacteria, which often help to digest starches. The genes that enable these *Streptococcus* bacteria to convert starches into energy-rich sugars were much more abundant in modern humans than in Neanderthals, hinting that reliance on starches grew during the course of human evolution." (*Nature*, V 593, 2021-5-20 p. 316)

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