Sacramento Archeological Society, Inc.

*N*ewsletter

www.sacarcheology.org. **January/February - 2019**

UPCOMING EVENTS

Note that SAS sponsored events are shown in blue.

- January 10-12, 2019 – **"New Discoveries in the American Paleolithic: The Pre 16,000 BP Archaeological Record"** at Borrego Springs Performing Arts Center, 590 Palm Canyon Drive, Borrego Springs, CA 92004. This Non-SAS event is sponsored by the Center for American Paleolithic Research, Anza-Borrego Desert State Park®, ABF, the Colorado Desert Archaeology Society, and the Anza-Borrego Desert State Park Paleontology Society SAS pot luck at Hacienda del Sol, Borrego Springs on Friday night.

- January 26, 2019, Saturday, 1:00 - 4:30 p.m. **– SAS Scholar Symposium (1) "Pompeii Artifact Life History Project"** by **Aaron Brown, "Excavation and technological analysis of Donggutuo stone artifacts"** by **Corey Johnson, "Burnt bone analysis – Bukovac, Serbia"** by **Giulia Gallo** at North Highlands – Antelope Library, 4235 Antelope Road, Antelope, CA 95843

- February 16, 2019, Saturday, 2:00 - 5:30 p.m. – **SAS Scholar Symposium (2) "Paleolithic excavation in Trou Al'Wesse –Belgium"** by **Ryan Gallagher, "Flot sample analysis"** by **Gloria Howat Brown, "Paleo-Coast lithic analysis – Santa Rosa Island, CA"** by **Kevin Smith** and **"Historic archaeological excavation – Bear Creek Ranch**" by **Ryan Poska** at North Natomas Library, 4660 Via Ingoglia, Sacramento, CA 95835.

- March 7 - 10, 2019 - **SCA Annual Meeting** at DoubleTree by Hilton Hotel Sacramento, 2001 Point West Way, Sacramento, CA 95815

- March 16, 2019, Saturday, 1:00 - 4:30 p.m. – **SAS Eclectic Symposium "Italian excavation"** by **Kim Frasse, SCA review** and more at North Highlands – Antelope Library, 4235 Antelope Road, Antelope, CA 95843

- April, 2019, **Statewide Collections Museum Center**, 4940 Lang Avenue, McClellan, CA 95652 (Exact day TBD)

- September 11, 2019 – September 13, 2019 – **Santa Cruz Tour** highlighting Sand Hill Bluff shell midden, Franklin Point ship wreck, Cowell Lime Kilns on the UCSC campus and Chitactac site near Gilroy. **September is a popular time to visit Santa Cruz. Make your lodging reservations today**. Options include: **Comfort Inn**, 314 Riverside Ave, Santa Cruz, CA 95060 or **Mission Inn**, 2250 Mission Street, Santa Cruz, CA 95060 or **Super 8** by Wyndham Santa Cruz/Beach Boardwalk East 338 Riverside Avenue, Santa Cruz, CA 95060. All three include breakfast. For more information on the tour stay tuned for details in future newsletters and/or contact **janjohansen@sbcglobal.net .**

New Discoveries in the American Paleolithic: The pre-16,000 BP Archeological Record

January 10 – 12, 2019

Borrego Springs Performing Arts Center
590 Palm Canyon Drive
Borrego Springs, CA 92004

This conference will present evidence from throughout the Americas that demonstrate the presence of a wide-spread human occupation much earlier than was previously recognized. It will focus on new sites and discoveries older than 16,000 PB as well as innovative methodological innovations in dating.

The conference is sponsored by the Center for American Paleolithic Research, Anza-Borrego Desert State Park®, ABF, the Colorado Desert Archaeology Society, and the Anza-Borrego Desert State Park Paleontology Society. It will include an evening wine and cheese meet and greet on Thursday, January 10th with poster sessions. On Friday and Saturday, the 11th and 12th enjoy presentations from international scientists and researchers. For more information and a detailed itinerary see https://theabf.org/calendar/newdiscoveries/ .

The cost of the conference is $35.00/ person. Since space is limited, please register as soon as possible by calling 760-767-0446 ext 1004. If you plan to attend, it is highly recommended that you make lodging reservations in Borrego Springs as soon as possible. In the past we have been pleased to stay at Hacienda del Sol, Borrego Springs. SAS attendees are planning a potluck on Friday, January 11 at the Hacienda del Sol. See you there.

Annual Scholar Symposium (1)

By
2018 Scholarship Recipients
Sunday, January 26, 2019
1:00 – 4:30 p.m.
at
North Highlands – Antelope Library
4235 Antelope Road
Antelope, CA 95843

We are pleased to feature three recipients of our 2018 scholarship.
Program
1:00 **Introduction**
1:15 - **"Pompeii Artifact Life History Project"** by **Aaron Brown**
2:15 - **"Excavation and technological analysis of Donggutuo stone artifacts"** by **Corey Johnson**
3:15 - **"Burnt bone analysis – Bukovac, Serbia"** by **Giulia Gallo**

Aaron Brown
Aaron is a graduate student University of California Berkeley. He received his BA in Classics at Florida State University in 2013 and MA in Classical Archaeology from University of California, Berkeley in 2015. Aaron is specializing in the study of ancient pottery. He completed his PhD qualifying exams in February 2018. This past summer Aaron was the senior participate in the Pompeii Artifact Life History Project (PALHIP). We will hear from Aaron on the latest finds from PALHIP.

Corey Johnson
Corey is a graduate student at University of California Davis in the evolutionary anthropology program. He received a BA in Anthropology from University of Montana in 2016. His dissertation intends to provide an in-depth comparison of the technological strategies of several Lower Pleistocene sites from the Nihewan paleo-lake base. This past summer he spent four weeks collecting data from stone artifacts from the Nihewan site of Feiliang (1.2 Ma) curated at the Hebei Provincial Institute of Cultural Relics in Shijiazhuang, China. Corey will discuss his experience collecting data and relate his progress analyzing the data to support a reconstruction of the core and flake reduction sequences utilized by early hominins at Feiliang.

Giulia Gallo
Giulia is a graduate student at University of California Davis in the evolutionary anthropology program. She graduated from New York University in 2014 and has excavated and worked in an archaeology lab for nine field seasons in Europe. Giulia's project aims at investigating the role of bone material for hominin subsistence. This past summer she had the opportunity to be a laboratory manager organizing excavated material from Bukovac, a Paleolithic cave site in Serbia (Doganzic, 2014). As a returning presenter she will update us on her analysis of the role of bone as a prehistoric fuel.

Annual Scholar Symposium (2)

By

2018 Scholarship Recipients

Saturday February 16, 2019

2:00 – 5:30 p.m.

at

North Natomas Library
4660 Via Ingoglia
Sacramento, CA 95835

Our final group of four 2018 scholarship recipients will present on their research.

Program

2:00 – **Introduction**
2:15 - **"Paleolithic excavation in Trou Al'Wesse –Belgium"** by **Ryan Gallagher**
3:00 - **"Flot sample analysis"** by **Gloria Howat Brown**
3:45 - **"Paleo-Coast lithic analysis – Santa Rosa Island, CA"** by **Kevin Smith**
4:30 - **"Historic archaeological excavation – Bear Creek Ranch**" by **Ryan Poska**

Ryan Gallagher
Ryan is a senior at University of California Davis majoring in Biological Anthropology. He participated in the excavation of a rich Middle Paleolithic archaeological layer on the terrace of Trou al'Wesse Cave in Belgium. The excavation project has yielded crucial data to understand the survival of Neandertal in Europe. Ryan will talk about his participation the excavation and his zooarchaeological study with Dr. John R. Stewart (University of Bournemouth), a specialist of Northern Refugia.

Gloria Howat Brown
Gloria is a graduate student at California State University, Sacramento. She received her BA in Anthropology at California State University, Sacramento in 2015. She is passionate about ethnobotany. Her thesis topic is "Starch grain analysis of ground stone on the central coast of California". She has been interning in the Far Western Archaeobotany Laboratory. She will talk about her analysis of plant material with Far Western while she was an archaeology technician with the Plumas National Forest.

Kevin Smith
Kevin is a graduate student at University of California Davis in Evolutionary Anthropology. He received his MA in Anthropology at California State University, Los Angeles in 2013 and his BA at Humboldt State University in 2007. Kevin's dissertation applies non-destructive analysis to Paleo-coastal stemmed points, crescents, cores and debitage from SRI-512 on Santa Rosa Island, California. Kevin will discuss how this data compares to lithic artifacts from the Gault Archaeological Site in Texas and surface finds from Tulare Lake, CA.

Ryan Poska
Ryan is a graduate student at Sonoma State University. He received his BA at University of California, Berkeley in 2013. His thesis research is associated with Cache Creek Watershed. He proposes to test for Native American presence on historic-era Euro-American ranches through XRF sourcing and obsidian hydration. His plan was to excavate two or three units at CA-COL-270/H, a multi-component site at the Bureau of Land Management's Bear Creek Ranch. He will present how the excavation reveals if the lithic scatter is contemporaneous with the occupation of the ranch.

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Society for California Archaeology Annual Meeting

at

Thursday, March 7, 2019 to Sunday, March 10, 2019

DoubleTree by Hilton Hotel Sacramento
2001 Point West Way
Sacramento, CA 95815

The meetings will kick-off with workshops on Thursday, March 7 including Material Culture in Historical Archaeology, Rock Art Conservation, Obsidian Hydration, Clovis Identification, Underwater Cultural Heritage Resources, Legislative Awareness, and a full day of Osteology. The workshops will sell out quickly, so reserve your spot.

Saturday night will feature the Awards Banquet, with keynote speaker Dr. Amy Gusick, Associate Curator of Anthropology at the Natural History Museum of Los Angeles. Dr. Gusick's cutting-edge research uses both terrestrial and underwater archaeology to study maritime adaptations, early human coastal migration and settlement, and the effects of environmental stress on Late Pleistocene and Early Holocene human groups along the Pacific Rim. Her talk will integrate this year's conference theme and her own work, drawing from examples of research conducted by women towards advancing our understanding of maritime adaptations.
https://scahome.org/sca-annual-meeting/2019-annual-meeting/

PAST ARCHEOLOGICAL ACTIVITIES

Sacramento Archeological Society, Inc.'s Annual Meeting

At our annual meeting on Saturday, December 8 we recognized member and board participation during 2018 and elected a Board of Directors for 2019. We were also pleased to have two returning scholars present their research and field work. **Naomi L. Martisius,** a graduate student at University of California Davis spoke on her research leading to her dissertation topic, "Study of bone use-wear using 3 D surface texture analysis". **Sara Watson,** also a graduate student at University of California Davis discussed heat treatment of silicate rocks including incites from her lab training at the University of Tubingen, Germany.

We thank Carolyn McGregor for providing a delicious lunch of chicken, salad and yummy dessert.

MEMBER'S CORNER

. *Election of 2019 Board of Directors*

During the annual meeting the following 2019 Board of Directors were elected.

The slate of the board is:

Candidate	Office	Candidate	Office
Tom Johansen	**President**	Paul K. Davis	**Member at Large**
Lydia Peake	**Vice-President**	Jeremy Johansen	**Member at Large**
Carolyn McGregor	**Secretary**	Jan Johansen	**Member at Large**
Doug La Rocca	**Treasurer**	Ruth McElhinney	**Member at Large**
John Foster	**Past President**	Roger Peake	**Member at Large**
		Diane Sangster	**Member at Large**
		Knuti VanHoven	**Member at Large**

Renewal of Annual Memberships

All memberships are renewable on **January 1** annually except for those who join recently (after September of the previous year). Please support the society by promptly paying your **2019** dues. Remember your dues make **scholarships** possible. We keep overhead low so that the funds can be used to support students. You may now use our web site http://sacarcheology.org/society-membership/ to renew and make payment using a credit card or Paypal.

The annual dues are:

Student/Limited Member	$15
Individual Membership	$30
Family Membership	$40
Sponsor	$100 - 499 (individual)
	$500 - 999 (business)
Patron	$1000

Alternatively, please make out your check to "**Sacramento Archeological Society, Inc**." and mail it to:

Sacramento Archeological Society, Inc.
P.O. Box 163287
Sacramento, CA 95816-9287

Thank you in advance for your prompt payment. We really appreciate your support.

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Annual Dues for 2019

Name(s): _____ Email: _____ **Phone:** _____

_____ Email: _____**Phone:** _____

Address:

_____

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Student/Limited Member	$15	____	$_____
Individual Membership	$30	____	$_____
Family Membership	$40	____	$_____
Sponsor	$100	____	$_____
Scholarship Donation			$_____

Total enclosed $_____

ARCHAEOLOGICAL REFERENCES

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

"Needle in the Haystack"

"A new technique for identifying tiny fragments of fossilized bone is helping to answer key questions about when, where and how human species interacted with one another. Now a technique for identifying ancient bone fragments, known as zooarchaeology by mass spectrometry (ZooMS) is finally allowing researchers to start answering long-standing questions about origins. By analyzing collagen protein preserved in these seemingly uninformative fossil scraps, we can identify the ones that come from the human/great ape family and then attempt to recover DNA from those specimens. Doing so can reveal the species they belong to—be it Neanderthal. *H. sapiens,* or something else. What is more, we can carry out tests to determine the ages of the fragments." The technique was used to identify Denisovians from bone fragments found in cave in Denisova Cave in southern Siberia and Neanderthals in Vindija Cave in Croatia. (Thomas Higham & Katerina Douka, *Scientific American,* 2018-12, pp. 40-47)

"Early human dispersals within the Americas"

(J. Victor Moreno-Mayer, et al. *Science,* V. 362, 2018-12-7, p. 1128)
http://dx.doi.org/10.1126/science.aav2621

'Two independent studies, published in *Cell* and online in *Science* (follows below), find that ancient populations expanded rapidly across the Americas about 13,000 years ago. The data included 64 newly sequenced ancient DNA samples. Prior to these studies only six genomes older than 6000 years from the Americas had be sequenced. Eske Willerslev, an evolutionary geneticist at the University of Copenhagen worked closely with the Fallon Paiute-Shoshone Tribe in Nevada to gain access to some of the new samples. Willerslev added the Spirit Cave data to 14 other new whole genomes from sites scattered from Alaska to Chile and ranging from 10,700 to 500 years old. His data joined an even bigger trove published in *Cell* by a team led by population geneticist, David Reich of Harvard Medical School in Boston. They analyzed DNA from 49 new samples from Central and South America, dating from 10,900 to 700 years old at more than 1.2 million positions across the genome. All told the data decisively dispel suggestions, based on the distinctive skull shape of a few ancient remains that early populations had a different ancestry from today's Native American."

"Ancient DNA tracks migrations around America" Trove of new samples reveals expansion of Clovis hunters and mysterious 9000-year-old population turnover"

(Lizzie Wade, *Science,* V. 362, 2018-11-9, pp. 627-628)

“Genetic studies of the Pleistocene peopling of the Americas have focused on the timing and number of migrations from Siberia into North America. They show that ancestral Native Americans (As) diverged from Siberians and East Asians ~23,000 years ago and that a split within that ancestral lineage between later NAs and Ancient Beringians (ABs) occurred ~21 ka ago. Subsequently, NAs diverged into northern NA (NNA) and southern NA (SNA) branches ~15.5 ka ago, a split inferred to have taken place south of eastern Beringia (present-day Alaska and western Yukon Territory).

Claims of migrations into the Americas by people related to Australians or by bearers of a distinctive cranial morphology before the divergence of NAs from Siberians and East Asian have created controversy. Likewise the speed by which the Americas were populated, the number of basal divergences; and the degrees of isolation, admixture and continuity in different regions are poorly understood. To address these matters, J. Victor Moreno-Mayar and others sequence 15 ancient human genomes recovered from sites spanning from Alaska to Patagonia; six are >10 ka old (up to ~18 coverage).

All genomes are most closely related to NAs, including those of two morphologically distinct Paleoamericans and an AB individual. However, they also found that the previous model is just a rough outline of the peopling process. NA dispersal gave rise to more complex serial splitting and early population structure—including that of a population that diverged before the NNA-SNA split—as well as admixture with an earlier unsampled population which is neither AB or NNA or SNA. Once in the Americas, SNAs spread widely and rapidly, as evidenced by genetic similarity, despite differences in material culture, between >10-ka-old genomes from North and South America. Soon after arrival in South America, groups diverged along multiple geographic paths, and before 10.4 ka ago, these groups admixed with a population that harbored Australasian ancestry, which may have been widespread among early South Americans. Later, Mesoamerican related populations expanded north and south, possibly marking the movement of relatively small groups that did not necessarily swamp local populations genetically or culturally.

“Why modern humans have round heads”

“Neanderthals DNA points to genes that influence brain”

Neanderthal skulls have a strange shape: stretched front to back like a football rather than round like a basketball, as in living people. But why our heads and those of our ice age cousins looked different remained a mystery. Now, researchers by tying Neanderthal DNA to brain scans in living people, identified genes that help to explain the contrast. Reported in *Current Biology*, the team lead by Philipp Gunz of Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany identified two Neanderthal DNA fragments that were correlated with slightly less globular heads. These DNA fragments affect the expression of two genes: UBR4 which regulates the development of neurons, and PHLPP1, which affects the development of myelin sheaths which insulate axons, or projections of neurons.” (Ann Gibbons, *Science*, V. 362, 2018-12-14, p. 1129)

"The not-so-dangerous lives of Neanderthals"

"Have Neanderthals gained an unfair reputation for having led highly violent lives? A comparison of skulls of Neanderthals and prehistoric humans in Eurasia reveals no evidence of higher levels of trauma in these hominins." (Marta Mirazón Lahr, *Nature*, 2018-11-29, pp. 634-635)

"Similar cranial trauma prevalence among Neanderthals and Upper palaeolithic modern humans"

"Neanderthals are commonly depicted as leading dangerous lives and permanently struggling for survival. This view largely relies on the high incidences of trauma that have been reported and have variously been attributed to violent social behavior, highly mobile hunter-gatherer lifestyles or attacks by carnivores. The described Neanderthal pattern of predominantly cranial injuries is further thought to reflect violent encounters with large prey mammals, resulting from the use of close-range hunting weapons. This article reassesses the hypothesis of higher cranial trauma prevalence among Neanderthals using a population- leveled approach—accounting for preservation bias and other contextual data—and an exhaustive fossil database. They show that Neanderthals and early Upper Palaeolithic anatomically modern humans exhibit similar overall incidence of cranial trauma, which are higher for males in both taxa, consistent with patterns shown by later populations of modern humans. Beyond these similarities, they observed species-specific, age-related variation in trauma prevalence, suggesting that there were differences the timing of injuries during life or that there were differential mortality risk of trauma survivors in the two groups. Finally their results highlight the importance of preservation bias in studies of trauma prevalence." (Judith Beise at al., *Nature*, 2018-11-29, pp. 686-689)

"Stress in Neanderthal children"

"Although environmental variability such as extreme seasonal cold, is believed to have influenced human evolution, it is difficult to measure its effects directly because of the coarseness of standard analytical methods. Using oxygen-isotope and trace-element analysis on microsamples of tooth enamel from two Neanderthal children the archaeological site of Payre, France, *Smith et al.* discovered evidence for extreme wintertime stress in these children, including probable weight loss and exposure to toxic chemicals in the environment, most notably lead. More detailed analyses of one of the children showed that the child was born in the spring and weaned before winter at 2.5 years of age" (*Science,* V. 362, 2018-11-2, p. 554)

"'Little Foot' fossil chiseled out of stone yields secrets"

"Mysterious ancient hominin retrieved after 20-year effort might be a distinct species"

"Ronald Clarke, a paleoanthropologist at the University of the Witwatersrand in Johannesburg, South Africa has been excavating Little Foot, piece by fragile piece in Sterkfontein caves near Johannesburg, for the past 20 years. By late last year Clarke's team had removed enough bones

to reconstruct more than 90% of the skeleton—making it the most complete *Australopithecus* thus far. Now several papers in the *Journal of Human Evolution* are being published on his findings. Little Foot was an adult female and stood about 130 centimeters tall. Her skull, bones and teeth are so unusual that Clarke and his team have categorized her as the distinct species *Australopithecus prometheus*. They suggest that *A. prometheus* is an ancestor of a group of hominins called Paranthropus, which co-existed with early *Homo* species for about one million years." (Colin Barras, *Nature*, 2018-12-13, pp. 169-170)

"Rare DNA sequences bring early human history to light"

"Genome studies unlock clues to our ancient family tree and migration patterns in Africa"

"Preliminary results from a recent study of 180 genomes from a dozen ethnic groups in Africa suggest that more than 40,000 years ago, two of the groups—the San and the Baka Pygmy—were roughly twice the size of other ethnic groups present at the time and that the San and Baka overlapped in central-eastern or southern Africa.' (Amy Maxmen, *Nature*, 2018-11-1, pp. 13-14)

Migrants and trade spiced up Canaanite metropolis"

"In Bronze Age tombs, signs of vanilla, 3000 years early, and elaborate medical care"

"In two Bronze Age tombs, archaeologists are finding signed that, nearly 3500 years ago, Megiddo was a cosmopolitan place. It drew immigrants from what is now Armenia, imported exotic spices from tropical climates (probably India) and boasted a state-of-the-art health care system—at least for the elite" (Andrew Lawler, *Science*, V. 362, 2018-11-30, pp. 980-981)

Geologists track ancient sites' bullet wounds"

"The ultimate goal is to inform efforts to conserve or repair heritage sites"

"Lisa Mol who specializes in rock art and rock deterioration, is now spearheading an initiative—the first of its kind—to quantify and catalogue the impacts of bullets in rock at a heritage site (Wadi Rum in Jordan). The eventual goal is to conserve or repair such sites. During their expedition, Mol's team collected data on the surface hardness, resistivity and permeability of rocks both at points of impact and in undamaged rock. They will combine these data with 3D images of the surface morphology to calculate the size, depth and shape of impacts, as well as the fractures that run along the surface. In the lab researchers will shoot guns at rock to test the microstresses caused by bullets impacts from different weapons and compare the results with the data from Wadi Rum to work out which weapons created which impacts, and how damage pays out in the rock," (Sarah Wild, *Nature*, 2018-12-6, pp. 18-19)

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