SCIENCE SATURDAYS!

Featured Article:
Dr. Robert Yohe & Fiadh Kelly - A Look at a Partial Human Mummy Arm from Roman Egypt

Upcoming Events:
03/16
Building a Plate Boundary: How the San Andreas Fault was Born, with Dr. Matt Herman

Tim Elam Presents:
04/15 SharkTooth Hill
04/16 Historic Gold Mining in Kern County

Every Last Saturday April-August:
Science Saturdays!

Museum Hours: Thursday-Saturday 10am-4pm and Sunday 12pm-4pm.
TOGETHER WE CAN DO SO MUCH

Your gift of any amount helps to support BVM’s mission.

Thank you for your generosity!

Donate

buenavistamuseum.org/donate

BVM is a Blue Star Museum which means we offer free admission to the nation’s active duty military personnel including National Guard and Reserve and their families.

BVM provides discounted admission for those currently receiving SNAP food assistance benefits. Simply present your valid EBT card and photo ID at the front desk for $2 admission each for up to 4 individuals per EBT card.

Jeff Johnson at the opening of BVM’s new Egyptian exhibit Preparing for Eternity

The newest addition to BVM’s North American mammal collection is a new coyote and jackrabbit display. The animal specimens were generously donated by the the Antelope Valley Conservancy

BVM’s Annual Rock, Mineral and Fossil Sale was a great success! Our gratitude goes out to Tim Elam and the many others who help make this event possible.
SUMMER SCIENCE CAMP IS BACK!

VISIT US AT:
2018 CHESTER AVE
BAKERSFIELD, CA 93301

MUSEUM HOURS
THURSDAY - SATURDAY
10:00am - 4:00pm
SUNDAY
12:00pm - 4:00pm
(661) 324-6350

Week 1 - 6/12- 6/15
Week 2: 6/19- 6/22
Week 3: 6/26 - 6/29
Week 4: 7/10 - 7/13

Camps will be held for Grades 1-3 and Grades 4-6. Topic schedule will be announced soon. Check our website.

Sessions held 8am-12pm Monday-Thursday. More details coming soon. Registration required.

Find out more at:
BuenaVistaMuseum.org/science-camps
PREPARING FOR ETERNITY

By Clint Osman - Curator of Collections

We are thrilled to announce the tremendous success of our latest exhibit, Preparing for Eternity, which opened in November, has received overwhelming positive feedback from visitors of all ages and backgrounds. It features over 100 artifacts and high-quality reproductions that provide an in-depth look at how the ancient Egyptians prepared for the afterlife.

The exhibit was made possible through loaned objects from two private collections belonging to Dr. Robert Yohe and Geoffrey Smith. These rare and valuable artifacts bring to life the intricate rituals and beliefs surrounding death and the afterlife in ancient Egyptian society. Additionally, several items have been generously donated, further expanding Buena Vista Museum’s permanent archaeological collection. The exhibition represents a comprehensive timeline including objects from Egypt’s prehistory all the way through to Greek, Roman and Byzantine periods. Visitors enjoy a fascinating window into the beliefs, customs, and artistry of this ancient civilization. Visitors can admire intricate jewelry, beautifully decorated textiles, amulets and burial masks that demonstrate the richness and diversity of ancient Egyptian culture.

We are proud to offer such an educational and immersive experience to our visitors, and we hope that you will take the opportunity to visit "Preparing for Eternity" while it is still on display. Don’t miss out on this unique chance to learn about one of the world’s most fascinating civilizations!

Led by trained docents, school groups will:

- Inspect a world class collection of 15 million year old Miocene fossil specimens from local Sharktooth hill.
- Enjoy a glimpse of how some of the earliest Californians lived through our life size Native American Lifeways exhibit.
- Explore a significant geology section including a stunning collection of gems and minerals.
- Experience the diversity of life through our North American and African Animals exhibits.
- Explore tactile and hands-on science learning in the "Oh Zone."

BOOK YOUR SCHOOL OR GROUP TOUR TODAY!
https://www.buenavistamuseum.org/school-tours

Call (661) 324-6350 now or scan code with your camera app.
Dr. Matt Herman

Building a Plate Boundary: How was the San Andreas Fault Born?
MARCH 16, 5:30PM-6:30PM
-Virtual Online Event-

Discover how we know the San Andreas fault is actually young, how plate boundaries form and what this means for people in California. Dr. Herman will also discuss his cutting-edge research on how this fault is growing every day.

Dr. Amber Stokes

Topic TBA
APRIL 20, 5:30PM-6:30PM
-Virtual Online Event-

Dr. Amber Stokes is an Associate Professor in the biology department at CSUB. She currently does research in addition to teaching physiology, ecology and zoology courses.

MARK YOUR CALENDARS!

INDEPENDENCE DAY
FIREWORKS FUNDRAISER
JULY 1ST - 4TH

Support Buena Vista Museum by purchasing your fireworks this year from our fireworks booth located in the East Hills Target parking lot on Mall View Road.
A LOOK AT A PARTIAL HUMAN MUMMY ARM FROM ROMAN EGYPT

By Robert M Yohe II and Fiadh Kelly

In 2010, a partial arm and cartonnage was donated by Bakersfield College to Dr. Yohe for use in his Egyptian archaeology course that he teaches at Cal-State Bakersfield. The left forearm and hand of a young adult mummy and associated mummy wrappings (linen covered with plaster called cartonnage) was collected in 1972 from a disturbed burial by a Bakersfield College student from the Egyptian town of Karanis in the Fayum Depression of Lower Egypt (about 50 miles southwest of Cairo).

Although disturbing ancient tombs and removing items to bring back on international flights by tourists is strictly forbidden today and would result in heavy fines and imprisonment, such laws did not exist until later in the 1970s. According to a handwritten note that was left with the remains, the student paid the guard a bribe and was then allowed to remove the partial mummy arm and some of its bandages. Eventually, the student donated the items to a BC geology and anthropology professor and they were part of that instructor’s personal collection for years until his retirement.

Although the conditions of the recovery of these important human remains were not ideal, and are not typical of archaeological excavation methods, both the mummified remains and associated cartonnage can provide useful information about the mummification practices of the time period. The town of Karanis was at its height during the Roman occupation of Egypt that began in earnest after the defeat of Mark Antony and Cleopatra’s navy at the sea battle of Actium in 30 BC. The emperor of Rome was the de facto “pharaoh” of Egypt for the next five and a half centuries until the Arab invasion of Egypt in AD 641. However, in order to more specifically determine the age of the mummy, the submission of a radiocarbon sample was necessary to determine more accurately just how long ago the person died. An accelerator mass spectrometer (AMS) radiocarbon assessment of a small sample of the inner layer of gauze was undertaken and provided a date of 1830 +/- 30 radiocarbon years, calibrated for accuracy to yield a range of ages between AD 126 and AD 253, with an average near AD 200. This places the mummy temporarily in the Roman Period (30 BC to AD 395) at the 84% confidence level. This just happens to correspond with the height of the success of the town of Karanis during the end of
the Second and beginning of the Third Century AD.

How was this body so successfully preserved so that even the fingerprints (dermal ridges) are so well defined, even after almost 2,000 years? The Egyptians believed that the preservation of the human body as it appeared in life was critical to success in the afterlife since the various aspects of the human soul—including the ba and the ka—had to be able to recognize the body after death in order to reunite with it for progression to the Hall of Judgement. The preservation process used began around 4,500 years ago, and initially only the pharaoh, his family, and high nobleman and priests were allowed this privilege, but with time even the poorest farmer could be mummmified if he could afford the process. Upon death, the body was cleansed with a strong palm wine (high in alcohol, so very antiseptic), and the internal organs were quickly removed (all but the heart, which was left in place) as was the brain, since these organs began decomposing quickly. The interior of the body was cleansed with more wine, then rubbed with ground resins like myrrh and frankincense, both with antimicrobial properties. The body was then placed in large piles of natron, containing salts of sodium carbonate, a chemical that rapidly dries tissue by drawing out the water. After about 70 days, the fully dried body was stuffed with rags and sawdust, covered with cedar oil and more powdered resins, and then wrapped in bandages of flax linen, sometimes at the end being covered in tar (also known as bitumen). In fact, the word “mummy” is derived from the Arabic word for tar, mumia, since many mummies were often black from being liberally dowsed in the substance. Each of these measures, plus the placement of mummies in stone tombs in the arid Egyptian desert, aided in the preservation of dried soft tissue for thousands of years.

incomplete obliteration of the epiphyseal fusion plate on the distal radius, the latter suggesting this person was in their late teens at the time of death. The overall quality of the mumification process and the fact that there are remnants of gold leaf on the outer wrappings of the mummy suggest at least an upper middle-class individual who was likely removed from a family tomb.

A preliminary assessment of the cartonnage and textiles found that textiles with a finer weave were used for the outer layers so the cartonnage could more easily accommodate the thin layer of plaster, followed by a courser textile with a lower thread count being closer to the body. Some pieces of the cartonnage have painted images in various colors (Figure 2), but the specific design elements are currently unidentified and require further study and comparisons to cartonnage from the Fayum from the Roman Period.

Additional studies are being planned for the future on both the mummy and its wrappings that include mass spectrographic analysis of the various pigments used on the cartonnage, and an attempt at ancient DNA extraction from either the dried flesh or bone (immunological studies on the mummmified muscle tissue suggests good protein preservation) to gain more information, including biological sex and even eye and hair color.

"Preparing for Eternity: Life and Death in Ancient Egypt" is open now on BVM's upper floor!
Buena Vista Museum strives to provide a wonderful and educational experience for our visitors, and we know that starts with our volunteers. Our volunteers are what keep us going, and we would like to take this opportunity to show our appreciation.

By Alexia Hutchins - Volunteer Coordinator

The Buena Vista Museum of Natural History and Science would like to give a special thank you to Dr. Robert Yohe. Dr. Robert Yohe has been a professional archaeologist and educator for more than 40 years and has donated much of his time to volunteering. He greatly assisted in the creation of our newest exhibit, Preparing for Eternity: Life and Death in Ancient Egypt, which features a large collection of Egyptian Antiquities. Dr. Yohe generously offered to place several items from his own personal collection on loan to the museum, creating a much more elaborate exhibition.

Dr. Robert Yohe

Dr. Yohe has also assisted on multiple occasions with our monthly Meet the Expert event where he has generously contributed his expertise on a multitude of engaging subjects. We thank you, Dr. Yohe, and look forward to your continued involvement with the Buena Vista Museum.

We would also like to extend our thanks to Carol Bowman. Carol is the current president of our board of directors and has dedicated a substantial amount of her time to volunteering at the museum. She is always willing to assist whenever it is needed. Whether it is being a docent for a tour group or organizing an event, she is always up to the task. Carol plays such a huge part in our daily operations. Without her, the museum would not be what is today. Thank you, Carol, for playing such a positive, consistent, and helpful role here at the Buena Vista Museum. We look forward to seeing what your future with BVM holds.

Volunteers are key to the museum's success. If you are interested in supporting the museum's mission with your time and skills, please consider applying at buenavistamuseum.org/volunteer
MEMBERSHIP BENEFITS

• **Free** admission to BVM as long as you are a member!
• **Free** admission to Bakersfield Museum of Art, Kern County Museum and CALM! as well as over 600 other ASTC museums!
• **Free** entry to our regular-admission priced educational programs like our “Just for Kids” events and monthly science talks.
• **Free** admission to over 600 ASTC participating museums worldwide! (www.astc.org)
• **$10 discount** per Science Camp session your child enrolls in
• **Discounts** on other museum events and a 10% discount in our museum store.

Did you know? Your membership now includes access to Bakersfield Museum of Art, Kern County Museum & CALM, plus over 600 museums and science centers worldwide!

Bay Area Discovery Museum  Sausalito, CA  California Science Center  Los Angeles, CA  Chabot Space & Science Center  Oakland, CA, Children's Museum at La Habra  La Habra, CA  Columbia Memorial Space Center  Downey, CA  CuriOdyssey  San Mateo, CA  Discovery Cube  Santa Ana, CA  Exploratorium  San Francisco, CA  Exploit Science Center  Davis, CA  Fleet Science Center  San Diego, CA  Gateway Science Museum  Chico, CA  Humboldt State University  Arcata, CA  Kidspace Children's Museum  Pasadena, CA  The Lawrence Hall of Science  Berkeley, CA  Lick Observatory  Mt Hamilton, CA

Lindsay Wildlife Experience  Walnut Creek, CA  Maturango Museum of the Indian Wells Valley  Ridgecrest, CA  MOXI! The Wolf Museum of Exploration + Innovation  Santa Barbara, CA  Natural History Museums of Los Angeles County  Los Angeles, CA  Placer Nature Center  Auburn, CA  San Diego Natural History Museum  San Diego, CA

Santa Barbara Museum of Natural History  Santa Cruz Museum of Natural History  Santa Cruz, CA  SMUD Museum of Science and Curiosity (MOSAC)  Sacramento, CA  The Tech Interactive  San Jose, CA, 95113  Turtle Bay Exploration Park  Redding, CA  Western Science Center  Hemet, CA  World of Wonders Science Museum  Lodi, CA

Preventing for Eternity

LIFE AND DEATH IN ANCIENT EGYPT

Buena Vista Museum of Natural History & Science

NOW OPEN!
CONSIDER A DONATION

BVM is looking ahead to exciting goals and growth we have planned, and we want you to be a part of our future! Current goals include returning to a rich menu of in-house programming to offer visitors during regular museum hours. We are also currently seeking sponsorships for new, kid-friendly, high-tech exhibits! In addition, a donation directly to BVM’s new endowment fund will insure the sustainability of the museum long into the future.

BVM’s average year operating expenses are about $270,000 per year, or about $22,500 a month, or approximately $740 per day. No donation is too small; in the end it all adds up! Your continued support is what enables the museum to serve our community by offering such a rich variety of educational programs for children and people of all ages.

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cut and detach******************************************************************************

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In memory of: __________________________________________________

____Enclosed is my donation for the General Operations in the amount of $ _______

____Enclosed is my donation to Sponsor the BVM Herbarium in the amount of $ _______

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Please contact me at Ph #____________________Best time to call_______

Please mail to BVM, 2018 Chester Ave, Bakersfield, CA. 93301 USA

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