



museON
summer2017



Download the ZAPPAR app on your mobile phone and see this Tyrannosaurus Rex come to life. You never know where dinosaurs will pop up this summer! Be sure to look for the T-Rex image.



This new technology, called augmented reality, blurs the line between what's real and what's computer generated (think Pokémon Go) by enhancing what we see.



DINOSAURS

Land of Fire and Ice™ & Dinosaur Discovery

06.17.17 - 09.17.17

From the Director

summer**2017**



museON



This summer, dinosaurs are invading the Museum with two special exhibits combined into one. Visitors will get to explore **Dinosaurs: Land of Fire and Ice** created by Minnesota Children's Museum and nationally sponsored by The David B. Jones Foundation. The second exhibit is **Dinosaur Discovery** by KOKORO, LLC.

Bill McElhone

Together, they will transport visitors back in time, presenting unfamiliar landscapes, touchable dinosaurs of all shapes and sizes, and opportunities to investigate clues about what the dinosaurs left behind. Although dinosaurs went extinct 66 million years ago, you can still adventure through this exhibit and see them come alive through the use of animatronic creatures! The "dino" theme continues all summer with a wide variety of related special programs, planetarium shows, and more. Look for details throughout this issue. See pages 6, 7, 10, and 11 for related articles.

The "summer of dinosaurs" at the Museum will kick off with the AniMotion Festival on June 2nd and 3rd. The Festival will feature some Kalamazoo Valley Community College Center for New Media students' work as they put together animated shorts and Claymation activities for children on June 2 and 3. See ad on the back cover.

This year's Summer Hands-On Happenings, Return of the Dinosaurs, is a free program which includes a variety of craft and other activities that runs every Wednesday from 1-4 p.m., June 28th through August 9th. The Museum is always looking for volunteers for these events and elsewhere. Please visit the website or call for more information. See the calendar on pages 16-17 for more details about this and other activities.

Binding Wounds, Pushing Boundaries: African Americans in Civil War Medicine is a very special exhibit that looks at the men and women who served as surgeons and nurses during the American Civil War and how their service as medical providers challenged the prescribed notions of race and gender, pushing the boundaries of the role of African Americans in America. This panel exhibit is a special collaboration with Western Michigan University Homer Stryker M.D. School of Medicine and was produced by the National Library of Medicine. A number of the Museum's Civil War-era Collections items will be featured in this exhibit. See page 3 for related article.

Mark your calendars for the much-anticipated eclipse on Monday, August 21st. See page 12 for more information.

Make it a wonderful summer full of "friendly" dinosaurs, fun, and living well. museON, everyone!

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museON

summer**2017**

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Binding Wounds, Pushing Boundaries: **AFRICAN AMERICANS IN CIVIL WAR MEDICINE**

Many histories have been written about medical care during the American Civil War, but the participation and contributions of African Americans as nurses, surgeons, and hospital workers is often overlooked. *Binding Wounds, Pushing Boundaries: African Americans in Civil War Medicine* will be on display at the Museum from May 29 to September 2, 2017. The exhibit provides a look at the men and women who served as surgeons and nurses and how their service as medical providers challenged the prescribed notions of race and gender, pushing the boundaries of the role of African Americans in America.

Through historical images and period documents, the exhibit explores the life and experiences of surgeons Alexander T. Augusta and Anderson R. Abbott, and nurses Susie King Taylor and Ann Stokes, as they provided medical care to soldiers and civilians while participating in the fight for freedom. "Binding Wounds, Pushing Boundaries opens the door to this rarely studied part of history and brings a voice to those that have remained silent for nearly 150 years," says Curator Jill L. Newmark.

With a nation divided, the American Civil War was a war to preserve the Union. For African Americans, it was a fight for freedom and a chance for full participation in American society. As all Americans supporting the Union sought ways to participate and contribute to the war effort, African Americans moved beyond the prejudices they faced to serve as soldiers, nurses, surgeons, laundresses, cooks, and laborers.

African Americans who served as surgeons and nurses for the Union Army found themselves in both new and familiar roles as healers and caretakers. Surgeons were in positions of authority, which had never occurred in the United States, while nurses received paid wages for their work. These men and women came from different backgrounds and life experiences, but their desire to participate in the cause for freedom transcended class, education, and social position.



Civil War surgical kit

Severe injuries suffered from the bloody battles of the Civil War were all too common in the period 1861-1865. Union soldiers alone suffered 175,000 wounds to limbs, and of that number, 30,000 resulted in amputation surgeries. Only 1 in 15 physicians in the Union ranks were allowed to perform amputations, and each amputation took 2 – 10 minutes. They used scalpels, saws, forceps, and other tools like those shown here. The surgeries themselves had a 26.3% mortality rate, though it was much more likely that a soldier would die from disease than from surgery.

Beyond the Civil War, stories of local African American physicians and nurses in Kalamazoo will be highlighted. The stories of Dr. Cornelius A. Alexander and Nancy Hodge, among others, will be told. Artifacts from the Collection of the Kalamazoo Valley Museum, as well as artifacts on loan from Murphy Darden, will be on display during this exhibit.

A Hometown Boy and the GREAT WAR



April of 2017 marks the 100th anniversary of the start of the United States' involvement in World War I. When war on Germany was declared, the mobilization of troops needed to be swift and organized. Local Kalamazooans lined up at the draft office, with 45 men signing up between June 25th and July 5th.

One of those men signing up in June was Donald Pomeroy Milham, born in Kalamazoo December 13, 1894, to Fred H. and Jennie B. Milham. Fred was President of Bryant Paper Company, and Donald worked there as a shipper. He was one of 150 total employees at Bryant who signed up to serve.

On Donald's draft registration card, his job as shipper is noted, along with his age, 22 years old, his short height, medium build, brown eyes, and dark hair. In response to the question of whether or not there are claims of exemption from the draft, he noted that he intended to work his father's farm, but this was not judged to be a valid exemption.

Donald was not the only Milham who signed up. His brother Elbert Gray Milham entered the service November 22, 1917. He was in the chemical warfare division. Another brother, Philip Carol Milham, entered the service June 2, 1918, and worked overseas at various base hospitals. After Donald signed up, he was sent to Camp Custer, where he was assigned to Company I, 337th Infantry, 85th Division. Once overseas in July of 1918, he was transferred to Company A, 26th Infantry, 1st Division.

Donald was listed as "missing" on October 6, 1918, alongside a roster of 78 dead. His family held out hope that he was still alive. Donald's sister Gertrude was constantly corresponding with the American Red Cross, trying to track down her brother's whereabouts. Finally, in March of 1919, his family was notified that Donald had been involved in the Battle of

the Argonne and died there. He was buried by a chaplain of the First Division near Exermont, France, on the battlefield at La Neuville le Compe Ferme. Five months of waiting, and the Milhams finally had their answer.

Lieutenant Commander Marcus Harloe, 126th Infantry, attempted to give the family comfort in his letter, saying:

"The Argonne battle, as you probably know, was the very hardest fighting that our troops went through during the war... You will I am sure be glad to know this, and also to know that Donald Pomeroy Milham belonged to a division whose proud record is that that [sic] it never yielded one foot of ground to the enemy."

The newspaper reported that Donald's brother, now Sergeant First Class Philip Milham, was at Base Hospital 109 at Vichy in France and was going to use his furlough time to try to locate Donald's burial place. His family held a funeral for Donald in Kalamazoo in 1921, erecting a monument at the family burial plot in Mountain Home Cemetery. His body is still buried in France.

In the years following the Great War, the community reacted with continued mourning and remembrances, trying to honor their fallen heroes and reconcile themselves with the losses felt in the local community. As early as October of 1918, Kalamazoo was discussing the idea of renaming West Street to Westnedge in honor of Colonel Joseph B. Westnedge, which was prior to his death the next month. In 1922, Milham School (at Portage and Cork Streets), was named in honor of Donald Milham, who lived in the district where the new school was located. Halls and other parts of the building were named after Col. Westnedge, Lieut. Edward Adams, and Lieut. John Howard Pyle.



Postcard: Camp Custer, Battle Creek. "U.S. National Army Cantonment, Camp Custer, Battle Creek, Mich." "Receiving Hospital Orders." Postmarked April 15, 1918



Postcard: U.S. National Army Cantonment, Camp Custer, Battle Creek, Mich.



Postcard: U.S. National Army Cantonment, Camp Custer, Battle Creek, Michigan. Postmarked Feb. 11, 1918



WWI military parade in downtown Kalamazoo. A large crowd lines the street behind the parade, and you can see Bronson Park in the background.



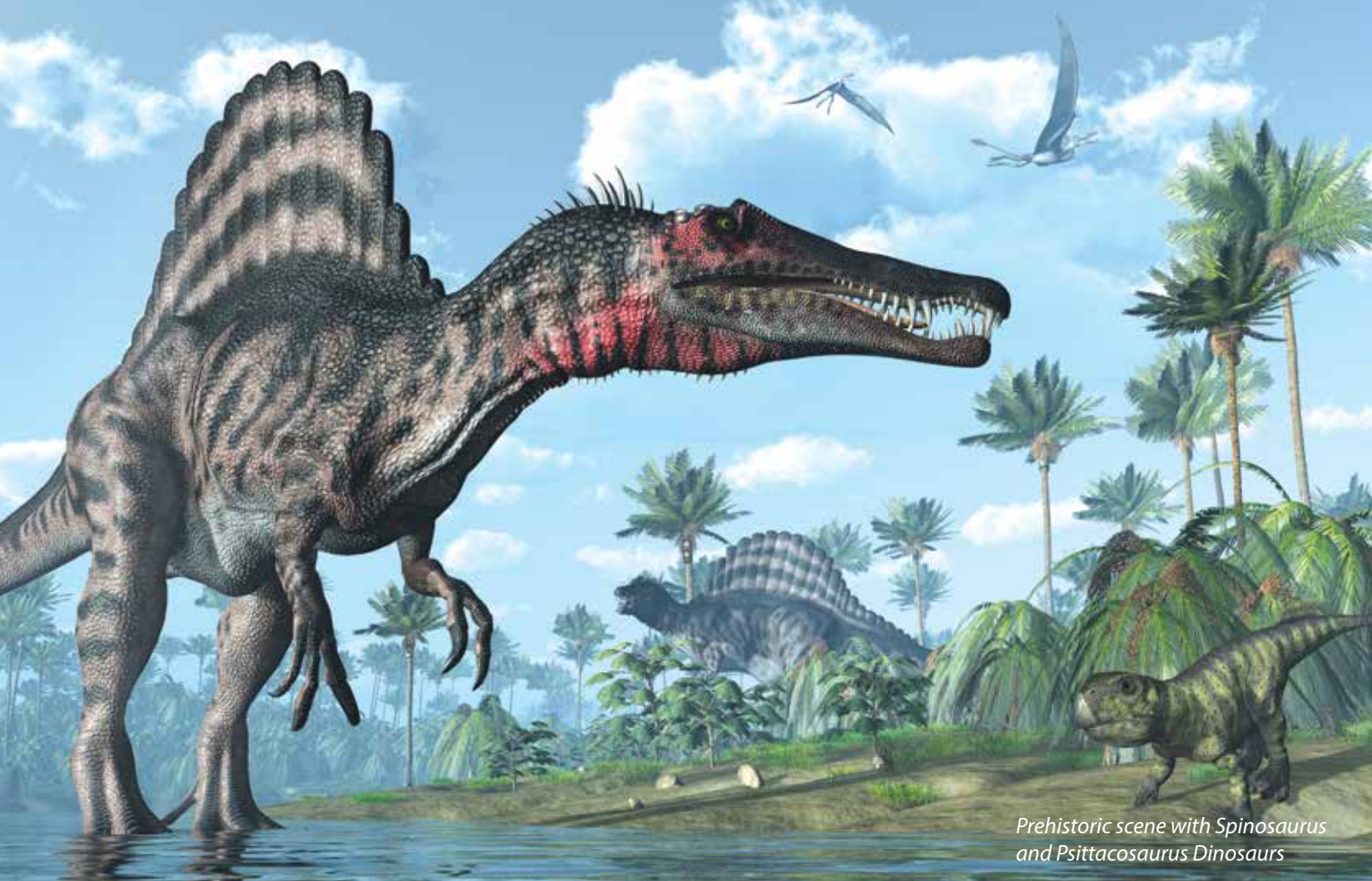
Donald Pomeroy Milham



Philip Carol Milham



Elbert Gray Milham




Prehistoric scene with Spinosaurus and Psittacosaurus Dinosaurs

Dr. Paul Sereno: **OUR HIDDEN GENIUS**

Paul Sereno studied art and biology as an undergraduate, but a behind-the-scenes museum tour opened his eyes to a life of science, art, and adventure. “I never recovered from that visit because in paleontology, I saw an irresistible combination of travel, adventure, art, biology, and geology,” Sereno said. And aren’t museums the perfect place for that combination of interests? It’s because of Dr. Sereno’s combined passions for art and paleontology that he’s KVM’s featured speaker for our 4th Annual AniMotion Festival. The event kicks off a summer of dinosaur programs at the Museum and features some Kalamazoo Valley Community College Center for New Media students’ work as they put together animated shorts and Claymation activities for children on June 2 and 3.

Sereno co-founded Project Exploration, a nonprofit organization dedicated to bringing the wonders of science to the public and providing opportunities in science for city kids. Its goal is to “change the face of science” by encouraging interest in science among students—especially girls and minorities—who traditionally have not found effective career routes into scientific disciplines. It does this by creating intensive collaborative relationships between students and working field researchers through structured programs involving the University of Chicago, where Sereno is a professor of paleontology, and other institutions.

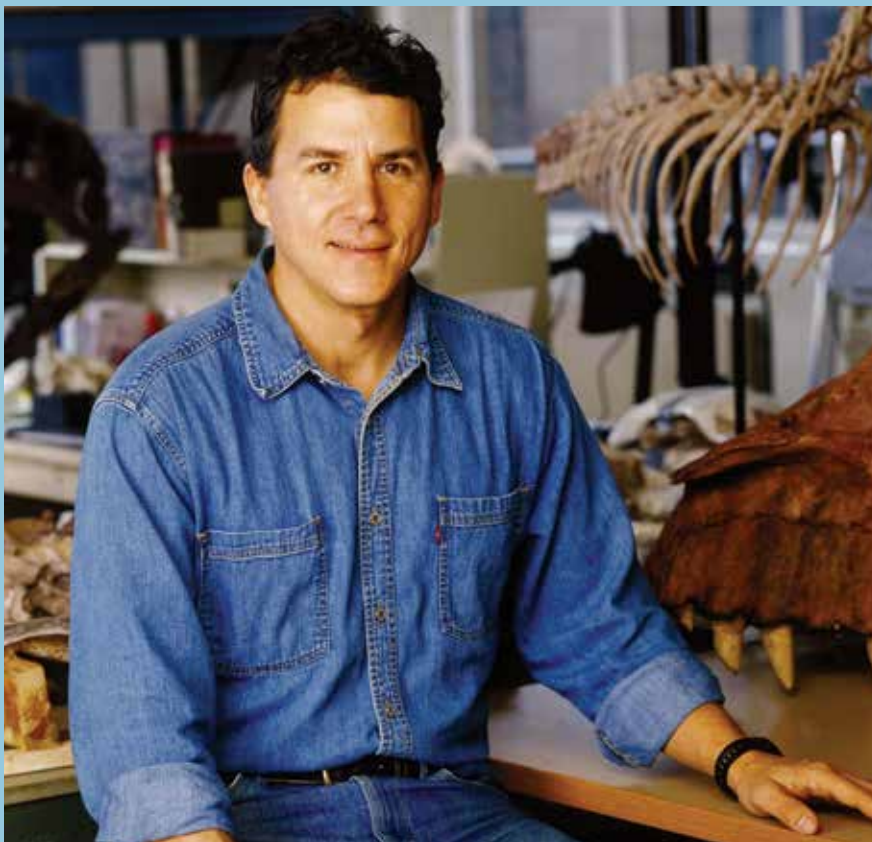


Sereno and his teams of scientists have discovered dozens of species of dinosaurs and other prehistoric animals on five continents over the span of his nearly 40-year career. It began with his late-1980s discovery in the Andes of the first dinosaurs to roam the Earth 230 million years ago, the Eoraptor. Then, in the early 1990s, he began exploring the Sahara, excavating tons and tons – literally – of dinosaur fossils that included many species new to modern science. India, Tibet, Niger, and China are a few of the far-flung regions of the world where Sereno has conducted his research. “I see paleontology as adventure with a purpose. How else to describe a scientific discipline that allows you to romp in remote corners of the globe, resurrecting gargantuan creatures that have never been seen? The trick to big fossil finds? You’ve got to be able to go where no one has gone before—while learning to enjoy 125-degree heat,” he said.

Fans of paleontology will recognize many of the species Dr. Sereno has discovered or more fully investigated. Our understanding of prehistoric animals is an evolution in itself. Most often, paleontologists find only a part of a fossil, leaving much to speculation. Those mysteries are doggedly pursued by subsequent

generations of paleontologists who, with luck and lots of smarts and grit, continue to find specimens that more completely tell the stories of these ancient beasts.

One such story involves the discovery of spinosaurus, one of the largest known carnivorous dinosaurs to roam the earth. In 1912, a German paleontologist made the discovery in Morocco of this creature and brought fossil fragments back to Germany for further study and recording. Those fossils were destroyed during a bombing of Munich in World War II, but the scientist’s journals and drawings were spared. Sereno and colleague Nizar Ibrahim became aware of new finds by “fossil hunters” in Morocco that seemed to fit the description and drawings of spinosaurus in the German journals. This began a years-long search for more. As new discoveries were made, knowledge of spinosaurus’s characteristics evolved. Sereno describes this creature as “half crocodile, half duck.” Digital reconstruction is one of the many tools used to better understand this fantastic animal, but it’s mainly the years of painstaking investigation by many scientists that has given us this lens into the distant past on Earth.



Don't Miss

Dr. Sereno’s talk during this year’s AniMotion Festival on Saturday, June 3 at 2 p.m. The lecture, *Our Hidden Genius*, describes his rocky youth with failing grades, after which he squeaked into college aiming to become a painter. Discovering paleontology there, his work soon became an exciting blend of art, history, and science wrapped in adventure. Famed for inspiring city kids and adults to pursue their destiny, Sereno argues that we can never fully grasp our “hidden genius” in one lifetime. The lecture is FREE, but seating is limited. Be sure to come early to claim your seat!

Paul Sereno, a professor at the University of Chicago and Explorer-in-Residence at the National Geographic Society, works with students, technicians, and artists in his Fossil Lab to bring to life fossils unearthed from sites around the world. Check out his website at: www.paulsereno.org

Dr. Paul Sereno



HOT FUN

in the

Summertime

- Summer Resorts -

For residents of Michigan, hot summer days often include a trip to the lake for a relaxing day at the beach. This has been one of the favorite pastimes for Kalamazoo residents for well over a century. Over one hundred years ago, the shores of Gull and Woods Lake played host to resorts, dance halls, hotels, amusement parks, and vacation cottages for rent.

The first resort located on the southern end of Gull Lake is thought to have been Hawks' Landing. Started in the 1880s by Elnathan Lorenzo Hawks, one of its popular attractions was the steamboat *The Crystal*, which offered 25-cent rides. By 1905, Hawks' Landing had been joined by more than a dozen other public and private resorts lining the shores of Gull Lake. Later on, Hawks' Landing was replaced by the LaBelle Resort, while Del Allen of Battle Creek built the Allendale Hotel and Resort. Other resorts on Gull Lake included Midland Park, Willow Beach, Highland Park, and Wildwood Park.

Within the city limits of Kalamazoo, Woods Lake offered several iterations of summer resorts, including Oakwood Park, a full amusement attraction with roller coaster, skating rink, dance hall, penny arcade, concession stand, and band shell. Another resort known as Woods Lake Park, later renamed Lake View, was opened by George Wheeler on July 5, 1893, and became known as the "Coney Island" of Kalamazoo.

Oakwood Park was serviced by the Oakland Avenue streetcar line, which brought visitors to the entrance on Parkview Avenue. During the park's prime, streetcars arrived and departed every 10 minutes. Oakwood Park closed in 1925, when automobiles became more affordable for the American family, which spelled the demise for the streetcar line. It is thought that a few of the cottages built in place of the park were constructed of lumber from the defunct roller coaster, and the rollercoaster cars are rumored to have sunk to the bottom of Woods Lake.



Allendale Hotel, 1912

JULY 4th,
Picnic and Dance
 At Cottage Hall, HAWK'S GROVE.
GULL LAKE!

Dance will be Run on the Bowery Plan,
 10c. Single dances, 3 for 25, or \$1.00
 for afternoon and evening. Hall is
 28x61 1-2, first rate floor. **GOOD MUSIC**
 in attendance, and good order preserved.

STEAMER CRYSTAL,
 Will be run all day and evening,
GOOD SUPPLY OF ROW BOATS.

No meals furnished at the grove. Meals
 can be had at Lake House and private
 houses. Bring your families and have a
 jolly day at the Lake.

E. L. HAWKS, Prop.
 N. R. SCUDDER, Floor Manager.

Advertisement for picnic and dance at Hawks' Landing, 1885



The pavilion at Oakwood Park, 1920



The steamboat Crystal on Gull Lake. The proprietor of Hawks' Landing, Elnathan Hawks, is standing on the dock.



Toboggan slide at LaBelle Resort, c. 1925



Elnathan Lorenzo Hawks, owner of Hawks' Landing, c. 1880s



Cottage at Hawks' Landing on Gull Lake, c.1880s



Women in the outdoor dance pavillion at Oakwood Park, c.1912

DINOSAURS

Land of Fire and Ice™
& Dinosaur Discovery

06.17.17 - 09.17.17



Tyrannosaurus Rex from Dinosaur Discovery



Triceratops with young from Dinosaur Discovery



Troodon from Dinosaurs: Land of Fire and Ice™



Dig pit from Dinosaur Discovery



Download the ZAPPAR app on your mobile phone and see this Tyrannosaurus Rex come to life. You never know where dinosaurs will pop up this summer! Be sure to look for the T-Rex image.



This new technology, called augmented reality, blurs the line between what's real and what's computer generated (think Pokémon Go) by enhancing what we see.

The Dinosaurs are Coming this Summer!



Dinosaurs are coming to the Kalamazoo Valley Museum this summer! "Although dinosaurs went extinct 66 million years ago, you can still adventure through this exhibit and see dinosaurs come alive through the use of animatronic creatures," said Kalamazoo Valley Museum Director Bill McElhone.

Dinosaurs: Land of Fire and Ice and Dinosaur Discovery will take over the Museum's third floor from June 17 to September 17. "We expect the exhibit to be popular with families of all ages, and we're pleased to be hosting this exciting exhibit during the summer and fall months. Who doesn't get excited about the prospect of seeing a dinosaur?" McElhone mused.

While moving through the exhibit, guests encounter unfamiliar landscapes, touchable dinosaurs of all shapes and sizes, and opportunities to investigate clues about what the dinosaurs left behind.

The exhibit features three sections: Land of Fire (a warm dinosaur habitat), Land of Ice (a cold dinosaur habitat), and a Field Research Station (complete with a Big Dig component), along with an adventure through the Mesozoic Era! Wander past several "living" dinosaurs and a winged reptile "flying" overhead!

"When playing in this engaging environment, children experience countless opportunities for showcasing critical thinking skills, such as questioning, reasoning, theorizing, observing, contemplating, planning, executing, and synthesizing," said McElhone. "This exhibit builds on the popular fascination with dinosaurs and utilizes a scientific approach to challenge all ages."

Each section of the exhibit is divided by a series of low walls that enable adults to view the entire exhibit while keeping each section distinct and autonomous. Extensive and detailed murals throughout the exhibit ensure an immersive, environmental aesthetic.

Dinosaur Discovery is a step back into the Mesozoic Era, where dinosaurs from the Cretaceous Period are still alive and well. Wander through the exhibit to see a family of Triceratops grazing, as well as the mighty, carnivorous, roaring Albertosaurus! Be sure to look up and see the Pteranodon flying overhead! You can also have your photograph taken with a full scale Tyrannosaurus Rex head as well as go digging for fossils in the Dino Dig Box.

Dinosaurs: Land of Fire and Ice was created by Minnesota Children's Museum and nationally sponsored by The David B. Jones Foundation. Dinosaur Discovery is brought to you by KOKORO, LLC.

When the Sun, Moon, and Earth Align: **AN ECLIPSE OF THE SUN**



Astronomy enthusiasts have waited more than four decades to observe a total eclipse of the Sun within the continental United States. A solar eclipse occurs when the Moon appears to pass directly in front of the Sun. This summer's August 21 solar eclipse will offer those in a path about 100 miles wide (between Oregon and South Carolina) the opportunity to see the Moon completely block out the Sun for about two and a half minutes, called a "totality." For most of the United States, the Sun will be partially eclipsed.

Eclipses of the Sun (solar) and Moon (lunar) are a relatively rare sight. On average, two solar and two lunar eclipses take place in any given year. Even though a solar eclipse may take nearly three hours to complete, not everyone on Earth will see it since some portions of our planet face away from the Sun.

Even though Michigan lies outside the path of totality, the Moon will still block out nearly 83% of the Sun at mid-eclipse (about 2:23 pm EDT) in Kalamazoo, thus offering observers a treat. Safe methods **MUST** be utilized so that permanent eye damage does not occur. **NEVER** look directly at the Sun or through optical devices such as binoculars or telescopes that are not equipped with solar filters. Wearing sunglasses, or watching through mylar balloons, CDs, welding glass, etc., does **NOT** offer enough protection and can lead to serious injury or loss of sight. There are many ways to enjoy a solar eclipse without risking your sight, and the KVM's planetarium is a great place to learn how.

From June to September, *Eclipse 2017*, an original KVM production, will be presented in the planetarium. It will discuss both solar and lunar eclipses, their causes, and safe observing methods. Eclipse shades will be made available to patrons while supplies last.

The next major eclipse of the Sun over Kalamazoo be on April 8, 2024, when a tiny portion of southeastern Michigan will fall within the path of totality. On that day, 96% of the Sun will be blocked over Kalamazoo. After 2024, nearly 75 years will pass before a total eclipse (September 14, 2099) in Kalamazoo.

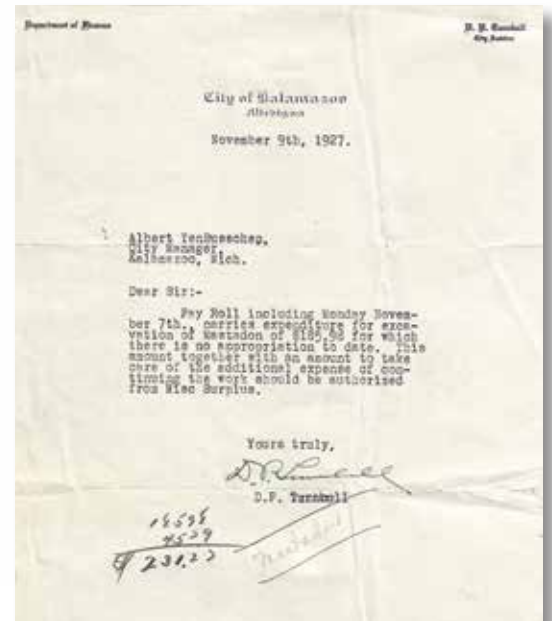
For more information and web links regarding eclipses, safety, planetarium shows, please visit our website and Facebook.



Photo credit: Michael Zeiler, greatamericaneclipse.com



Mastodon bones found in 1927 near the corner of West Patterson Street and North Westnedge Avenue



Letter to City Manager, Albert Ten Busschen regarding funding for the excavation of the Mastodon bones. Courtesy of Kalamazoo City Archives

A “Bone”-A-Fide DISCOVERY

Kalamazoo city workers Clarence Miller and John Clark made quite the discovery while digging a sewer on West Patterson Street near North Westnedge Avenue on November 1, 1927. Nine feet below the surface in the marl clay, Miller and Clark thought they had come across a tree trunk. After further digging, the workers saw that the object tapered and came to a point. They were perplexed at what it could be. With chains placed around the object, the workers pulled it from the ground.

They unearthed a long tusk and a large vertebra of an extinct prehistoric animal that once roamed the earth. But what animal was it? Here’s a hint – the bones they found did not belong to a dinosaur. No dinosaur remains have been found in Michigan, and this animal lived millions of years after dinosaurs. After City Engineer Edward S. Clark arrived at the worksite and washed the object, he declared that it was the tusk of a mastodon!

Mastodons are an extinct relative of the elephant. They were a large, stocky mammal with long tusks, flexible trunks, and long, shaggy fur. They could grow to be seven to ten feet tall and weigh up to 12,000 pounds! They lived in various parts of the world and roamed throughout Michigan until about 10,000 years ago.



Mastodon statue

At the time, professors from Western State Teaching College (Western Michigan University) declared that the tusk was one of the largest they had ever seen. Professor William E. Praeger of Kalamazoo College stated that the mastodon tusk was a “good specimen,” and he believed it to be approximately 10,000 years old.

The tusk and vertebra gathered lots of attention while on display in the engineering department at City Hall, and City Manager Albert Ten Busschen authorized the city’s engineering department to continue excavation at the site. Three days after the initial discovery, workers discovered nine ribs and 10 more vertebrae. By November 14th the city had spent \$231.27 from the miscellaneous surplus fund excavating the bones. That would be over \$3,100 today! While city records are unclear, another \$225.00 may have been allocated to continue the dig.

When money eventually ran out, the excavation stopped, and work on the sewer line resumed. In all, city workers found 56 bones. The bones were treated with a coat of paraffin. At the time it was thought that the paraffin helped to protect the bones from the harmful effects of air and dust. In December 1927, the city donated the bones to the Museum, where they have been preserved ever since.

Evidence of Ancient Life in **MICHIGAN**

Where can you find dinosaur bones in Michigan? Unfortunately for paleontologists and dinosaur buffs, the answer is, "In a museum." To understand why dinosaurs are not part of Michigan's fossil record, we need to consider what rocks and fossils can tell us about the ancient environments that have existed in our state over the past 600 million years.

From rock outcroppings, subsurface records filed by oil companies, and fossils, geologists have been able to determine that Lower Michigan was once located south of the equator. There, our region was covered by a warm-shallow sea for several hundred million years. This ancient sea was inhabited by clams, armored and boney fish, crinoids, cephalopods (squid-like animals), and a group of pill bug-like arthropods called trilobites that lived among vast coral reefs or on the sea floor. Today, we find the fossilized remains of these animals in deposits of sandstone, limestone, and shale.

The type of rock that a fossil is found in tells scientists about the environment in which animals and plants once lived. For example, sandstones with broken shell fragments reveal a high-energy beach environment, whereas shale tells of a deeper, low-energy environment.

Examining drilling logs from oil exploration has enabled

geologists to show that Lower Michigan was once a basin (like a shallow bowl) that was cut off from the ocean. Over a span of millions of years, the basin slowly filled in as this inland sea slowly evaporated, leaving behind the last deposits about 250 million years ago.

It is likely that other sediments were also deposited later, but today, scientists can only speculate because the rock and fossil record from 14,000 years to 250 million years ago is gone! It's very similar to a book that has whole chapters missing. So what happened to these deposits?

The most likely answer is that the movement of glaciers nearly a mile tall bulldozed Michigan's landscape many times. This erased any evidence of the life and environments from the time of the dinosaurs to the time that the glaciers retreated from Michigan about 14,000 years ago.

Fortunately, glaciation has not affected every place on Earth. In numerous places around the world, including many in the western United States, paleontologists can examine rock deposits that are 65-250 million years old to look for the bones of dinosaurs and other prehistoric animals.



Devonian Life

WHAT IS IT?



1 Someone fishing could use this to help them subdue their dinner. What is it?

2 This cast-iron device would be used on a farm or in a garden. What is it?



3 This pocket-sized accessory kept a common trading commodity dry and protected. What is it?

1. Fish knocker or fish club. This implement was used to quickly knock out large fish. It dates to the early 1900s and comes from the arctic region.

2. Bulb or dibble planter. Gardeners used this tool to make holes in the soil for planting seeds, tobacco, and bulbs. From 1830 to 1938, William Johnson Inc. of Newark, New Jersey, manufactured an array of cast-iron and steel tools, like this planter, which belonged to Kalamazoo native and former Upjohn Company employee Gaynor Nash.

3. Snuffbox. Snuff is a finely ground tobacco that's inhaled rather than smoked. In order to maintain the correct moisture balance, boxes like this pewter one from the mid-to-late 1800s were airtight to prevent the snuff from spoiling. Boxes were made from a variety of materials, including wood and metal.

FEATURED EVENTS

Check out the full calendar at kalamazoomuseum.org

MAY

JUNE

JULY

AUGUST

SPECIAL EXHIBITIONS

DINOSAURS: LAND OF FIRE AND ICE & DINOSAUR DISCOVERY

JUNE 17 - SEPTEMBER 17

Travel back in time to explore the age of the dinosaurs! Encounter unfamiliar landscapes, touchable dinosaurs of all shapes and sizes, and opportunities to investigate clues about what the dinosaurs left behind. Wander through the exhibit to see a family of Triceratops grazing, as well as the mighty, carnivorous, and roaring Albertosaurus! Be sure to look up to see the Pteranodon flying overhead!

Dinosaurs: Land of Fire and Ice was created by Minnesota Children's Museum and nationally sponsored by The David B. Jones Foundation. Dinosaur Discovery is brought to you by KOKORO, LLC.

BINDING WOUNDS, PUSHING BOUNDARIES: AFRICAN AMERICANS IN CIVIL WAR MEDICINE

THROUGH SEPTEMBER 4

This exhibit looks at the men and women who served as surgeons and nurses during the American Civil War and how they pushed the boundaries of the role of African Americans in America.

All exhibits are **FREE!**

SPECIAL! EXTRA DINOSAUR-THEMED PROGRAMS FOR ALL AGES!

ANIMATION FESTIVAL

FRIDAY, JUNE 2, 5:30 – 8 P.M. AND SATURDAY, JUNE 3, NOON – 4 P.M.

FREE

This year, our fun with animation will focus on DINOSAURS! Kalamazoo Valley Community College students will show their original animated shorts on Friday night, and on Saturday, we host a very special guest speaker, Dr. Paul Sereno, paleontologist from the University of Chicago. Create your own stop-motion Claymation with dinosaurs of your own design!



See details and full schedule on our website.

SUMMER HANDS-ON HAPPENINGS

RETURN OF THE DINOSAURS

WEDNESDAYS, 1 –4 p.m.

From June 28 through August 9

June 28: Dino Souvenirs

Dinosaurs are all the rage! Create your own dinosaur flag, cup, flyer, and so much more.

July 5: Dino Dig

Dig for dinosaurs, put the bones together, and create your own fossils.

July 12: Dino School

Design and create a wide variety of dinosaurs, learning what made each of them unique.

July 19: Dino Games

Dinosaur games, puzzles, and brainteasers galore

July 26: Dino Science

Use arts and crafts to explore the many aspects of the lives of dinosaurs.

August 2: Dino Land

Design habitats and environmental features common to the eras of dinosaurs

August 9: Dino Celebrities

Create and explore dinosaurs from your favorite books and movies.

All Hands-On Programs are **FREE**

Visit our website for details.

Special Wednesday-only planetarium shows for families.

Free! 8-Minute Kids' Show!

Space Shapes

Weekly at 12 and 12:30 p.m.

This lovely show will acquaint little ones with shapes they can find in the night time sky.

One World, One Sky

Weekly at 1 p.m., \$3/person

Join big Bird, Elmo and their Chinese friend Hu Hu Zhu as they explore the sky they all share. Explore the Big Dipper, North Star, and take an imaginary trip to the Moon.

Space Park 360

Weekly at 2 p.m., \$3/person

Ride amazing virtual amusement park rides at stops on or near each of the planets in our solar system!

Check our regular show times for Dinosaur shows!

PLANETARIUM

*Closed for yearly maintenance September 11-15.

FEATURE SHOWS

Mon, Wed, Fri, Sat, Sun at 3 p.m.

Journey to Space

(through June 16)

Dinosaurs at Dusk

June 17 – September 10

Take to the skies and discover the origins of flight as you travel back in time to meet the ancestors of modern-day birds and explore the last days of the dinosaurs

FAMILY SHOWS

Sat at 1 p.m.; Sun at 2 p.m.

Mon-Fri 11 a.m. show starts June 19

Little Star that Could

(through June 11)

Did An Asteroid Really Kill the Dinosaurs?

June 17 – September 10

Did a space rock six miles wide slam into the Earth 66 million years ago and wipe out 75 percent of all species, including the dinosaurs? Learn about Earth's largest extinction events and celestial objects that periodically hit Earth.



SEASONAL STARGAZING SHOWS

Tue, Thu at 3 p.m.; Sat at 2 p.m.

MI Spring Skies (through June 16)

Join us for a live presentation on stargazing under our current sky. Learn how to orient yourself to the night sky, use a star map, and find celestial objects with binoculars or a small telescope.

Eclipse 2017 June 18 – September 7

See a simulation of the total solar eclipse of August 21 and learn how the motions of Earth and the Moon cause solar and lunar eclipses. Review some recent eclipses and safe ways to view solar eclipses.

MUSIC LIGHT SHOWS

Saturdays at 4 p.m.

Led Zeppelin

Saturdays at 4 p.m.

June 17- September 9

Experience Led Zeppelin classics set to immersive, computer generated effects in full-dome.

Pink Floyd's Dark Side of the Moon

Sundays at 4 p.m.

June 18 - September 10

The music you know is taken to a new level when combined with full-dome interpretive visualization in the planetarium.

All shows are \$3 per person

Early Childhood EXPLORATIONS
in the Burton Henry Upjohn

CHILDREN'S LANDSCAPE

**Closed for yearly maintenance September 25 – 29.*

Monday-Friday 9 a.m. – 3 p.m.
Wednesdays (June 28 – August 30) 9 a.m. – 5 p.m.
Saturdays 9 a.m. – 5 p.m.
Sundays 1 – 5 p.m.

Children five and under are encouraged to play and explore in three rooms of interactive exhibits and playful environments. FREE!

June/July Dinosaurs

Dinosaur environments, puzzles, toys, puppets, and music!

August/September Sports

Get healthy and moving with individual and team sports, from dance to football.

Check our website for possible closings this summer with the renovation of the science gallery.

EXTRAS

Demonstrations

Join KVM staff for LIVE weekly demonstrations on different science and history topics. Please call the front desk for our weekly offerings.

NEW! Tours

Mon, Tue, Thu, Fri (Starting June 26)

Join KVM staff for a 30-minute guided Kalamazoo Highlights tour in our exhibits. Program times may vary; please call the front desk for today's offerings.

Camp 911

July 11 or July 18, 9 a.m. – 4 p.m

This free one-day camp teaches youth ages 9-11 stay-at-home survival skills. Co-sponsored by the Kalamazoo Valley Museum and LIFE EMS. Pre-registration required. For more information, contact Kimberly Middleton at kmiddleton@lifeems.com.

August 16: The Great Eclipse of 2017

1 - 3 p.m. FREE

What is an eclipse? How can I see one safely? And why are eclipses such a big deal? Find the answers to these and other questions about the August 21 eclipse. Afterward, the original KVM production Eclipse 2017 will be presented in our planetarium.



FILMS AND PRESENTATIONS

This summer, KVM offers free lectures and films related to dinosaurs and the science of paleontology. Details are available on our website or by calling.

MARY JANE STRYKER THEATER – FREE

Wednesdays at 1:30 p.m. unless otherwise noted.

Saturday, June 3, at 2 p.m.

DR. PAUL SERENO: OUR HIDDEN GENIUS

After a rocky youth, Sereno squeaked into college aiming to become a painter. Discovering paleontology there, his work soon became an exciting blend of art, history, and science wrapped in adventure. Sereno argues that we can never fully grasp our "hidden genius" in one lifetime.

Saturday, June 17, and Wednesday,

June 21:

DISCOVERING DINOSAURS: TALES OF BONES, TEETH, AND FEATHERS

June 28:

A DINOSAUR RENAISSANCE: HOW SCIENCE AND TECHNOLOGY HAVE HELPED US RE-INTERPRET EARTH, DINOSAURS, AND THEIR EXTINCTION

July 5:

FILM WITH Q&A: PLANET DINOSAUR – THE GREAT SURVIVORS

July 12:

FILM WITH Q&A: PLANET DINOSAUR – THE NEW GIANTS

July 19:

FILM WITH Q&A: PLANET DINOSAUR – THE GREAT SURVIVORS

July 26:

FOSSILS: STORYTELLERS FROM THE PAST

August 2:

MEET TWO PALEONTOLOGISTS FROM KALAMAZOO, JEFF AND GREG WILSON, PRESENTING TWO TALKS:

India Before the Himalayas: When Snakes Ate Dinosaurs, and, **Mammals Inherit the Earth: How the K/Pg Mass Extinction Killed Off Dinosaurs and Opened the Way for Mammals.**

August 9:

FILM WITH Q&A: PLANET DINOSAUR – FEATHERED DRAGONS

FRIDAY NIGHT HIGHLIGHTS

Mary Jane Stryker Theater

The Museum is open until 9 p.m. on **Art Hop Fridays** year-round; doors close at 8 p.m.* A variety of live entertainment, visual art, and music light shows are available for adult audiences each month. See detailed information online or pick up fliers at the KVM.

Friday Art Hop Visual Experiences begin at 5 p.m. – FREE

Friday Art Hop Live Music Experiences begin at 6 p.m. – FREE

Music Light Shows begin at 6:30 and 8 p.m. – \$3

June 2:

AniMotion Festival Kickoff with **The Art of Hannah Spangler and Zak Sliuzas**: two original animated short films

July 7:

The Steve Pesch Band (Classic Rock, Blues, Classic Country, and Rockabilly)

Karen and Rene Malenfant's From Rock to Animals Exhibition (Acrylic Painting/Multi-Media)

August 5:

Cold Mountain Child (Sunbeam Play, Folk, Psychedelic, and Indie)

Rachel McGuffin's Figures Illuminated Art Exhibition (Acrylic, Gouache, and Colored Pencil)

MUSIC LIGHT SHOWS IN THE PLANETARIUM:

July 7 through September 8

Pink Floyd's Dark Side of the Moon

at 6:30 p.m.

The music you know is taken to a new level when combined with crisp laser graphics and shown on the planetarium's dome.



Led Zeppelin

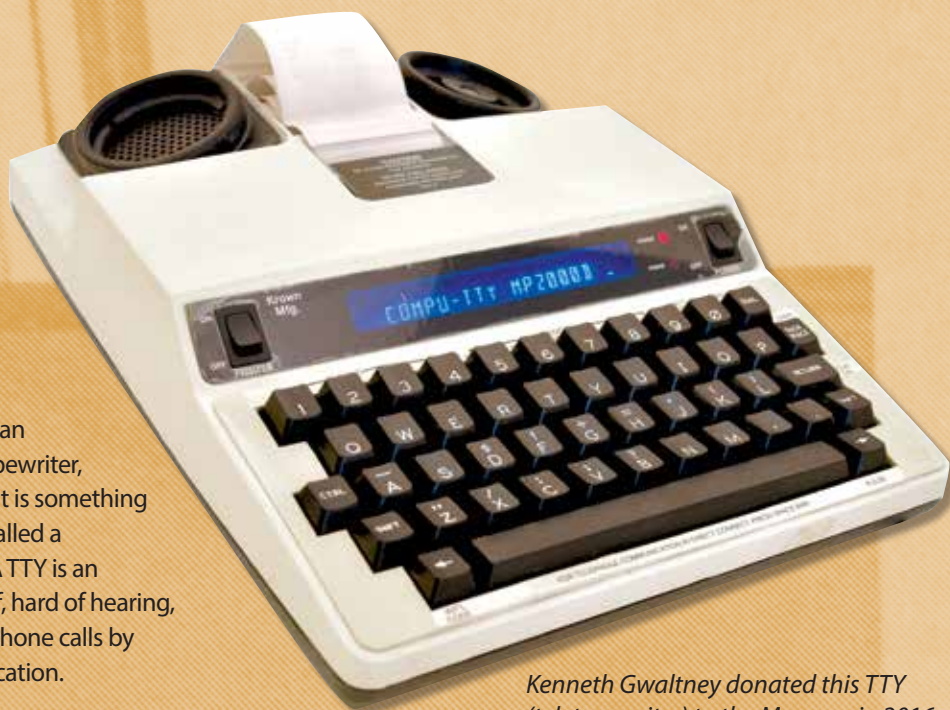
at 8 p.m.*

Experience Led Zeppelin classics set to immersive, computer generated effects in full-dome.

**Doors to the Museum will close promptly at 8 p.m. Please arrive early to get your ticket and be admitted to the 8 p.m. show*

Recent Acquisition

TELETYPEWRITER (TTY)



The Kalamazoo Valley Museum recently received an object that at first glance may look like a small typewriter, but once you take a closer look, you can see that it is something much more. It is a teletypewriter (TTY). It is also called a Telecommunications Device for the Deaf (TDD). A TTY is an electronic device that allows a person who is deaf, hard of hearing, or has speech difficulties to make or receive telephone calls by typing their conversation through text communication.

The TTY has a keyboard and small screen that displays the typed text. The text is also printed on the spool of paper at the top of the device. Once the text is typed, it is transferred through a telephone line to another compatible device. The device also has a place where a speaker and earpiece of a telephone handset can be placed.

Robert Weitbrecht, a deaf physicist, developed the first electronic TTY in 1964. By the 1980s, the devices became smaller and portable but could cost as much as \$700. In 1981, all of Michigan's telephone companies were required to offer the equipment to deaf or hard of hearing people for a one-time charge of \$400.86 or a monthly installment plan of \$6.68 for five years. Problems arose when Michigan Bell required hearing customers, including medical and social agencies, to lease the equipment for a \$28 installation fee and monthly fee of \$25. This made it difficult and expensive for a hearing person to communicate with a deaf or hard of hearing person, in effect isolating the deaf community.

One alternative to both parties having a TTY is the use of a relay service. If a deaf or hard of hearing person is communicating with

Kenneth Gwaltney donated this TTY (teletypewriter) to the Museum in 2016. It dates to the mid-1980s.

a hearing person who is using an ordinary phone, the relay service uses a human operator, often called a communications assistant, to relay the conversation back and forth between what is being typed and what is being spoken.

By 1983, local human service agencies Gryphon Place and the Kalamazoo Center of Independent Living worked together to provide a volunteer-run phone call relay system handling 4,500 calls a year. It wasn't until after 1990 when the Americans with Disabilities Act (ADA) went into effect that relay services were readily available.

While TTYs and relay services are still in use, other developments in technology have changed the way the deaf community can communicate. They include e-mail, cell phone text messaging, and instant messaging.

Background image: Kalamazoo Center for Independent Living volunteer Will Harter using a TTY in 1983. From the Kalamazoo Gazette Archives courtesy of the WMU Archives and Regional History Collections

CAMP911

LIFE @ems

AMBULANCE

TUESDAY, JULY 11 OR TUESDAY, JULY 18
9 a.m. – 4 p.m. FREE!

This is an interactive camp designed to educate children on the importance of emergency preparedness. Participants will learn cardiopulmonary resuscitation (CPR), how to access the 911 system, basic first aid, fire safety, bike safety, abduction awareness, severe weather action, and gun safety.

Each one-day camp will take place at the Kalamazoo Valley Museum. Limit 25 students, ages 9 to 11.

REGISTRATION REQUIRED AT
lifeems.com

Registration opens May 1, 2017

For more information, or to learn of other dates and locations, contact Kimberly Middleton at 269.373.3116 or at kmiddleton@lifeems.com.

Sponsored by Life EMS Ambulance in partnership with the Kalamazoo Valley Museum.



GUITAR: THE INSTRUMENT THAT ROCKED THE WORLD

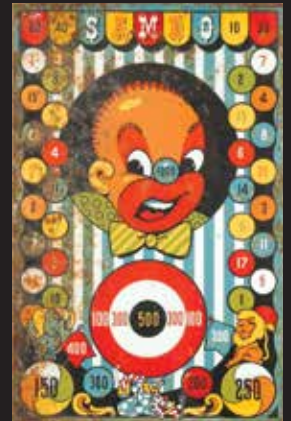
Sept 30, 2017 – Jan 7, 2018

Visitors will have an entertaining, engaging, and hands-on experience with one of the most important cultural icons in history. This exhibit has it all: music, science, history, pop culture, video, interactives, and games.

HATEFUL THINGS

Sept 17, 2017 - Jan 14, 2018

The exhibit Hateful Things displays artifacts and images from the late 19th century to present day that illustrate the stereotyping and violence that has existed towards African Americans. From the Jim Crow Museum of Racist Memorabilia at Ferris State University.



Cut and keep for Summer Happenings

SUMMER 2017 HANDS-ON HAPPENINGS

RETURN OF THE DINOSAURS

Wednesdays, 1 – 4 p.m. FREE

- June 28:** **Dino Souvenirs:** Create your own dinosaur flag, cup, flyer, and so much more.
- July 5:** **Dino Dig:** Dig for dinosaurs, put the bones together, and create your own fossils.
- July 12:** **Dino School:** Design and create a wide variety of dinosaurs, learning what made each of them unique.
- July 19:** **Dino Games:** Dinosaur games, puzzles, and brainteasers galore.
- July 26:** **Dino Science:** Use arts and crafts to explore the many aspects of the lives of dinosaurs.
- August 2:** **Dino Land:** Design habitats and environmental features common to the eras of dinosaurs.
- August 9:** **Dino Celebrities:** Create and explore dinosaurs from your favorite books and movies.

This summer, KVM offers free lectures and films related to dinosaurs and the science of paleontology. See calendar in this issue or online for dates and titles.

All Hands-On Programs are **FREE!**
Visit our website for details.

2017 JUMP INTO SUMMER!

Animation festival

center for new media ▶ kalamazoo valley museum

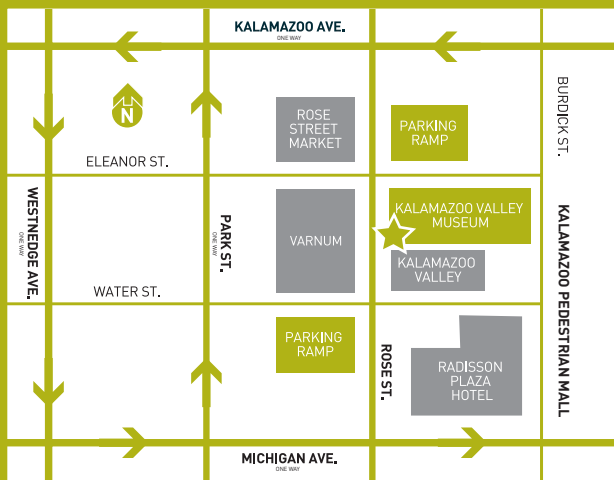
Friday, June 2, 5:30 – 8 p.m. FREE

Kalamazoo Valley Community College animation student Jordan Wilson will MC the AniMotion Festival Kickoff event featuring original art and short dino animations by Hannah Spangler and Zak Sliuzas, both students at Kalamazoo Valley's Center for New Media.



Saturday, June 3, Noon – 4 p.m. FREE

Our guest speaker is Dr. Paul Sereno, paleontologist from the University of Chicago. His 2 p.m. presentation, *Our Hidden Genius*, describes his rocky youth with failing grades, after which he squeaked into college aiming to become a painter. Discovering paleontology there, his work soon became an exciting blend of art, history, and science wrapped in adventure. Famed for inspiring city kids and adults to pursue their destiny, Sereno argues that we can never fully grasp our "hidden genius" in one lifetime. Seating is limited; be sure to come early to claim your seat! Throughout the afternoon, Kalamazoo Valley Community College students will help kids create their own stop-motion animation using clay dinosaur figures they get to design and keep!



FREE GENERAL ADMISSION

Monday–Saturday 9 a.m.–5 p.m.
Art Hop Fridays 9 a.m.–8 p.m.
Sunday + Holidays 1 p.m.–5 p.m.
Closed: Easter, Thanksgiving, Christmas Eve, and Christmas

Kalamazoo VALLEY™ Museum

230 North Rose Street
Kalamazoo, MI 49007

269.373.7990 | 800.772.3370

www.kalamazoomuseum.org

[/KalamazooValleyMuseum](https://www.facebook.com/KalamazooValleyMuseum)

[@kalamazoomuseum](https://twitter.com/kalamazoomuseum)

Accessible environment. Sign language interpreters may be scheduled with a minimum of two weeks' notice. Assisted listening devices are available in the planetarium and Theater.



The Kalamazoo Valley Museum is operated by Kalamazoo Valley Community College and is governed by its Board of Trustees

