

# CATALYST

DENVER MUSEUM OF NATURE & SCIENCE MAGAZINE

WINTER 2017

## INSIDE ///


ULTIMATE DINOSAURS

NATURE'S AMAZING MACHINES

EL ALEBRIJE: UNA HISTORIA EN COMUN





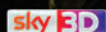


A story 320 million  
years in the making

# CONQUEST OF THE SKIES

IMAX 3D

SERENGETI ENTERTAINMENT PRESENTS A COLOSSUS PRODUCTIONS FILM IN ASSOCIATION WITH SKY 3D "CONQUEST OF THE SKIES 3D"  
NARRATOR MARK BONNAR VFX SUPERVISOR JAMES PROSSER CINEMATOGRAPHER PAUL WILLIAMS COMPOSER GRAHAM HADFIELD  
EDITOR PETER MILLER DIRECTOR DAVID LEE SUPERVISING PRODUCER MIKE DAVIS PRODUCER ANTHONY GEFFEN



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Dear Members,

We love science at the Denver Museum of Nature & Science, and we are especially pleased when there is a chance to collaborate with the community on new discoveries. An unexpected opportunity came up recently when we got a call from construction workers in Thornton. They had uncovered something, and they thought we'd better take a look.



Our curator of dinosaurs, Joe Sertich, quickly gathered his gear and headed north. When he arrived at the site, he confirmed in just moments that Saunders Construction had indeed unearthed something very important—a *Triceratops*.

We joined forces with Saunders, the City of Thornton, and the State of Colorado to excavate more than 80 percent of the *Triceratops* skull and about 15 percent of its skeleton. Brantner Elementary School, right across from the site, also got caught up in the excitement. Joe visited the students to talk about the science behind the new find, and the school held a contest and named the dinosaur "Tiny."

The *Triceratops* is now at the Museum, displayed in the Fossil Prep Lab in *Prehistoric Journey*. It will take about a year to meticulously clean and prepare the fossils for preservation and study, as we continue to piece together what our state was like 66 million years ago.

I am grateful to all of our community partners for helping to secure this dinosaur for the citizens of Colorado. I also extend my thanks to our Museum team. This sort of discovery requires a great deal of commitment from our staff and volunteers, and I appreciate how they always jump in and get it done.

We especially remember the dedication of our friend and colleague Mike Getty, a well-known paleontologist who died unexpectedly. His unique passion for his profession—and life in general—will be never be forgotten, and we are grateful for his service to the Museum.

Members, we also appreciate you and your steadfast support, which helps us ignite our community's passion for nature and science. Best wishes for a safe and joyful holiday season.

George Sparks  
President and CEO  
president@dmns.org

See photos from the site and discover more @ [dmns.org/triceratops](http://dmns.org/triceratops). And don't miss a CBS4-Denver special about the *Triceratops* on Friday, December 8, at 6:30 p.m.

## CONTENTS

### 2 IN THE KNOW

Here's the latest about what's going on inside and outside the Museum.

### 4 FEATURED EXHIBITIONS

What do dinosaurs, mummies, *alebrijes*, and amazing animals have in common? Free experiences during the holidays!

### 6 MUSEUM INSIDER

Meet another *Triceratops* that made its way to the Museum recently.

### 8 MUSEUM TREASURES

What is it? You'll never guess how this rare geology specimen was formed.

### 10 GET INVOLVED

Let's work together to be catalysts and ignite the community's passion for science and nature.

### 12 DISCOVER SCIENCE

Show the kids how science works by participating in the newest taste study.

## FIND IT @ DMNS.ORG

- Print-at-home tickets for surcharged exhibitions, Planetarium and IMAX shows, lectures, and programs
- Reservations for members events
- Hours and showtimes
- Museum scientists
- Museum blog
- Heavens Above sky information
- Membership renewals and purchases

Join Our Community:



## ON THE COVER

From the anthropology collections

Ivory figurine of bear  
AC.5079  
Yupik (Yuit)  
Gambell, St. Lawrence Island, Alaska  
Mid-20th century



Photo by Rick Wicker



## SAVE THE DATE FOR GIRLS & SCIENCE

Girls & Science, presented by the Museum and CBS4, will be held on Saturday, March 3. This popular event uses an innovative career fair model where girls meet women working in STEAM industries. Girls and their families are invited to explore a variety of Science Clubhouses, where they will meet women mentors and explore the many diverse opportunities a future in science, technology, engineering, art, and math can bring. This day is all about igniting a passion for science—so try it on, test it out, and play! Free admission for members!

## GET READY FOR SUMMER DAY CAMPS

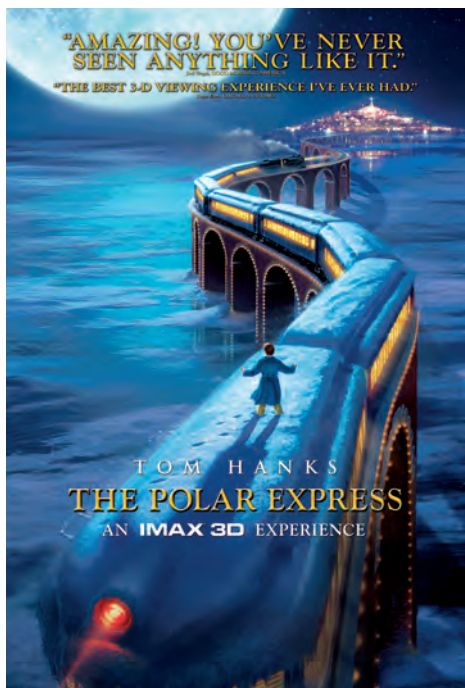
As a Museum member, you have the benefit of advance registration for Summer Day Camps, this year on Tuesday, January 23. If you are not receiving emails from us about summer camps and other Museum insider information, please send your name, member number, and email address to [members@dmns.org](mailto:members@dmns.org). Get ready with a schedule at-a-glance and registration information at [dmns.org/summercamps](http://dmns.org/summercamps). Upgrade to the Giving Club level and receive the earliest access, on Monday, January 22! See p. 10 for details.





## GIFT CARDS ARE THE PERFECT GIFT

Let your friends, family, or colleagues choose their own adventure with a gift card! The cards may be redeemed for admission tickets, programs and lectures, memberships, and in the shops operated by the Museum. The cards are available in amounts from \$25 to \$250, and they never expire. You may purchase a gift card onsite at the Ticketing desk, online at [dmns.org](http://dmns.org), or by phone at 303.370.6000.



## HOLLYWOOD FILMS IN IMAX

Some of your Hollywood favorites are coming to Phipps IMAX Theater! The Museum is adding previously released cinematic features to our IMAX lineup. Upcoming films include *Wonder Woman 3D* and *Polar Express 3D*. Daytime and evening showings will be available. Make a trip to the movies a fun addition to your holiday plans. Find the schedule and ticket information at [dmns.org/imax](http://dmns.org/imax).

## HEAVENS ABOVE

Find out what's going on in the winter sky at [dmns.org/heavensabove](http://dmns.org/heavensabove).

## DEAD SEA SCROLLS COMING TO DENVER

*The Dead Sea Scrolls*, the exhibition that has captivated millions around the world, will open at the Museum on Friday, March 16. The presenting sponsor is Sturm Family Foundation, with major support from Lorie and Henry Gordon.

The regional premiere of this exhibition is a once-in-a-lifetime opportunity to see authentic Dead Sea Scrolls, ancient manuscripts that include the oldest known Biblical documents dating back over 2,000 years. The scrolls will be dramatically presented within a massive exhibit case featuring carefully regulated individual chambers, along with the full English translation.

In addition, the largest collection ever assembled of artifacts from cultures related to the scrolls will allow guests to explore traditions, beliefs, and iconic objects that continue to impact world cultures today. The hundreds of objects include inscriptions and seals, weapons, stone carvings, terra cotta figurines, remains of religious symbols, coins, shoes, textiles, mosaics, ceramics, and jewelry.

*The Dead Sea Scrolls* is organized by the Israeli Antiquities Authority (IAA).

Find out more at [dmns.org/deadseascrolls](http://dmns.org/deadseascrolls).



## MEMBERS ADMISSION TICKETS ON SALE DECEMBER 1

Information about the Members-Only Preview and Evenings coming soon. Find out more at [dmns.org/memberevents](http://dmns.org/memberevents).

## HOLIDAY TO-DO LIST

There's something for everyone in these exhibitions. All of these experiences are free for members and will be open through the new year!



## ULTIMATE DINOSAURS

Take a break from the holiday rush and hunt dinosaurs for the day! *Ultimate Dinosaurs* is packed with a menagerie of dinosaurs that evolved in isolation in Africa, South America, and Madagascar. Although you'll see amazing life-size articulated skeletons, real fossils, and cool animations, the exhibition also has several activities that illustrate what it's like to be a paleontologist.

Among the highlights are replica fossils in "plaster jackets" you can clean to give you a sense of what it's like to prepare real fossils for study and display. The Museum's Exhibits Department used some tricks of the trade to create the replicas. After creating casts of real fossils from the Museum collections, they experimented with a variety of materials to simulate the matrix. Staff tested three different prototypes to find the perfect mix of wax and sand that gives the sensation of clearing away the dirt and rock from the

fossils. Try out the results in the "Fossil Prep Lab" activity area in the exhibition, which also contains cabinets with drawers displaying real fossils.

There are stations with interactive projection microscopes, a microfossil sifter that demonstrates how paleontologists search for tiny fossils, and video interviews with the paleontologists making these awesome discoveries, including the Museum's own dinosaur hunter, Dr. Joe Sertich.

As you leave the exhibition, you will see one of the newest tools in the field of paleontology: a 3D printer! This technology is changing the landscape for studying fossils and sharing specimens more easily and broadly. Watch the 3D printer in action as it creates a replica of a fossil from the Museum collections. Find out more at [dmns.org/ultimatedinos](http://dmns.org/ultimatedinos).



## NATURE'S AMAZING MACHINES

This exhibition is filled with activities and fun facts that will open your eyes to how every living thing is a machine built to move and survive. You and your family can compare your grips to a chimpanzee's, try "flying" using two different wings, and find out how a walk in the woods led to a very popular invention. You will also want to pick up your limited edition trading cards featuring facts about different animals from the exhibition, along with activities to try at home. If you're here on Friday, December 22, stop by Science on the Spot outside the exhibition and see specimens from our collections representing some the stars of the "Twelve Days of Christmas" song. The exhibition is in English and Spanish. Find out more at [dmns.org/NAM](https://dmns.org/NAM).



## EGYPTIAN MUMMIES

For years, our permanent *Egyptian Mummies* gallery displayed two female mummies, described as the "Rich Mummy" and the "Poor Mummy." In 2016, a team of Egyptologists and other specialists from around the country collaborated with Michele Koons (pictured below), our curator of archaeology, to conduct new research and find out how today's leading technologies could shed more light on the lives and deaths of these two women. The results are in! New findings show their distinctions are not so much based on economic status but more on their place in the history of Egyptian mummification. The gallery has been updated with new information, highlighted by an amazing interactive touch table that digitally unwraps the mummies and allows you to focus on key features. You will also see an updated case about animal mummies, including a baby crocodile mummy we thought was empty. Get a sneak peek on the Museum's Facebook page!



## EL ALEBRIJE: UNA HISTORIA EN COMUN ("A HISTORY IN COMMON")

Don't miss a chance to see 25 beautiful animal *alebrijes* from the Museo de Arte Popular in Mexico City that reflect a deep-rooted tradition of creating spiritual artwork. Alebrijes are fanciful and brightly colored sculptures made of wood and paper-mache, handcrafted by artisans in Mexico and Oaxaca. Spiritual artwork has been evolving since the days of the Aztec, over 500 years ago. When collectors began buying or removing sacred pieces in the 1930s and '40s, people from the region began making nonspiritual objects—alebrijes—for tourists and collectors to buy. Deciding which animals to represent in an alebrije and why, creating them with intentionality, and decorating them purposefully result in both playful and meaningful works of art. They are on exhibit through January in the North American Wildlife Hall, Level 2, near the moose-caribou diorama.





## EARTH'S LAST DINOSAURS

BY TYLER LYSON, PhD

There's no question people love dinosaurs, judging by all the enthusiastic guests in the new exhibition *Ultimate Dinosaurs* and the intense interest in the *Triceratops* discovery in Thornton this past summer. Dinosaurs were first described about 200 years ago, so you'd think there would be nothing new to learn. However, these captivating beasts continue to help us write the scientific narrative of our planet—past, present, and future.

In addition to the Thornton discovery, another *Triceratops* fossil arrived at the Museum this past summer, a very nearly complete, six-and-a-half-foot

long skull. This one was discovered during the 2016 field season in the Hell Creek Formation in Fallon County, Montana, and excavated this past summer. Hell Creek is a hotbed for ongoing research because it has a distinctive K-T boundary, the literal dividing line between what life on our planet was like before and after the cataclysmic asteroid strike 66 million years ago that changed the course of Earth's history.

*Triceratops* is the most common dinosaur in North America. Several paleontologists recently proposed that it be the "model" organism for dinosaurs because it is so well-known. Our field team collected



16 *Triceratops* specimens in 2016 alone, including a beautifully preserved juvenile skull. Despite being a frequent find, they always have something to offer.

The one from Montana stands out for a couple of reasons. It was located only six meters below the K-T boundary, so it lived about 66.3 million years ago and was one of the very last dinosaurs on Earth. This animal was also elderly. Its skull is very large and its horns are short. Like deer, and most long-lived mammals, the horns shrink in old age, similar to humans shrinking as they get older and bone is reabsorbed. The advanced age will help address various aspects about how this dinosaur developed.

During the excavation, *NOVA* was onsite in Montana to film for the documentary “Day the Dinosaurs Died,” focused on the drilling of the Chicxulub crater off the Yucatan Peninsula, where the asteroid impact occurred. I appear on camera, along with our former chief curator and the current Smithsonian director, Kirk Johnson, to discuss what happened to life on land before and after the impact event.

Ongoing research finds that dinosaur diversity was doing fine right up until the K-T boundary, suggesting that dinosaurs did not go extinct gradually but catastrophically. Materials thrown into Earth’s atmosphere from the impact created an intense pulse of infrared radiation. Anything that wasn’t underground or in the water and buffered from the thermal pulse was essentially cooked. In addition, the dust and aerosols injected into the stratosphere blocked sunlight for years, killing off 70 percent of plants. This combination of intense heat and cold killed off the giant dinosaurs. The skull was perfect for the film because it was a large recognizable *Triceratops* skull sticking out of the ground, right below the K-T boundary.

The Montana *Triceratops* is currently in the hands of our Earth Sciences staff and volunteers, who will spend hundreds of hours clearing away the rock and debris, revealing new discoveries about an individual who lived a long life a very long time ago.

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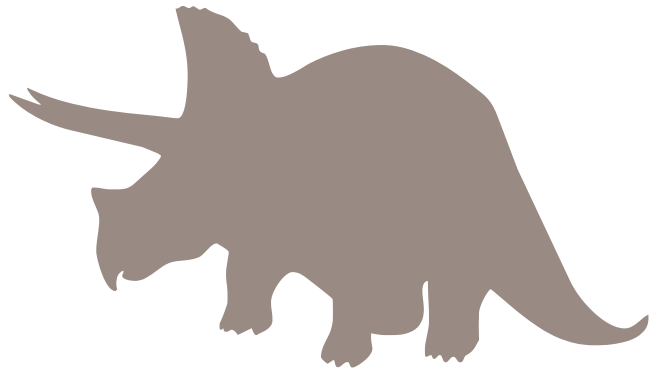
## DISCOVER MORE

Dr. Tyler Lyson is curator of vertebrate paleontology. Find out more about him at [dmns.org/science/museum-scientists/tyler-lyson](https://dmns.org/science/museum-scientists/tyler-lyson).

*NOVA*’s “Day the Dinosaurs Died” will broadcast on PBS on Wednesday, December 27. Find out more at [rmpbs.org](https://rmpbs.org).

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Facing page: Tyler Lyson poses with the *Triceratops* onsite in Montana.



## ABOUT TRICERATOPS

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- The first *Triceratops* was discovered in Denver in 1887. It was originally thought to be an extinct, large-horned bison. A more complete skull unearthed in Wyoming a year later revealed the fossils instead came from a horned dinosaur.
- The name comes from Greek: *tri*, “three” and *keratops*, “horned face.”
- *Triceratops* lived during the end of the Cretaceous Period, between 68 and 66 million years ago, just before the mass extinction that killed the dinosaurs.
- They are the most well-known member of the family Ceratopsidae, a group of large, mostly North American horned dinosaurs.
- *Triceratops* could be 20 to 30 feet long and up to 8 feet tall. However, scientists are exploring why the animal may range in size from region to region.
- Their heads measured up to five feet across, and they likely used their horns to fend off predators and for combat with other *Triceratops*.
- *Triceratops* were herbivores, with shearing cheek teeth to slice a variety of tough plants. They had hundreds of teeth that were constantly replaced throughout the animal’s lifetime.



## FOSSILIZED LIGHTNING

BY CHELSEA BITTING AND JAMES HAGADORN

Lightning strikes occur about a million times a day around the globe, producing air temperatures up to 50,000° F. That's five times hotter than the surface of the sun! Whether igniting a tree or triggering a blackout, lightning strikes cause more damage than hurricanes or other natural disasters.

But they've got a good side too. As they zip through the air, lightning bolts catalyze production of nitrates, an essential fertilizer for all plants. And of course they help Thor and his hammer, Mjölnir, keep the bad guys in check.

In rare circumstances, lightning can even become fossilized.

Such "petrified lightning" or "lightning stones" are known to geologists as fulgurites. The term comes from the era of the Roman Empire (ca. 75 BCE) when lawyer-turned-philosopher Marcus Cicero coined the term *condere fulmina* to describe digging up thunderbolts. Sometime after this, a class of noble soothsayers, the Fulguriatores, would look for struck ground as the site to conduct their ceremonies. These spots became known as fulgurites.

There are two different types of fulgurites. The most common are sand fulgurites, which are formed when lightning strikes melt the worn-down quartz crystals that make up sandy landscapes. The melted quartz grains recrystallize in a tubular shape that mimics the size and shape of the lightning bolt. Just like obsidian, the melted sand cools so quickly there isn't time for large crystals to grow, thus fulgurites often have a glassy internal texture. Ideal places to form such fulgurites are on coastal beaches or in deserts with pure dry sand—but just about any patch of sand is susceptible to forming a fulgurite. The problem is that such fulgurites don't last long, often breaking apart after extended exposure to the elements.

Every now and then, a recent strike is spotted and someone collects the fulgurite before it gets destroyed. One of the best known examples is in our collections. This monstrous root-shaped specimen formed as lightning hit a patch of gravelly sand not too far from here, just above Boulder's Flatirons.

The other type of fulgurite is a rock fulgurite, which forms where lightning melts the surface of a rock into a glassy crust. These fulgurites look like darkened veins or branches on the surface of the rock. They typically occur on mountain peaks where lightning is more likely to strike, especially during summer storms. Rock fulgurites can be found on any mountain peak around the world, including here. Look for them next time you're hiking a Fourteener!

Fulgurites represent the ethereal touch of nature's most powerful force. Although they form quite often, they're hard to collect without shattering them. Their origin and rarity has long made them coveted by rock hounds, jewelers, and even shamans.

More recently they've been sought after by scientists. This is because atmospheric gases and other substances get trapped inside tiny bubbles that form when lightning vaporizes quartz sand grains to form a fulgurite. Just like tree rings and ice cores, the bubbles give us a microscopic snapshot of what our planet was like long ago.

Scientists have known this for decades but weren't able to precisely date fulgurites from younger deposits. Our colleagues over at the U.S. Geological Society in the Federal Center used a technique called thermoluminescence to overcome this hurdle. Just as your skin accumulates sunspots and other markings from a lifetime of exposure to solar radiation, crystals like those locked in fulgurites also acquire radiation damage in proportion to their age. By measuring the rate at which this damage occurs and the total amount of damage present in crystals formed during fulgurite genesis, one can determine the age of the fulgurite. A team of scientists combined this fulgurite-dating approach with chemical analysis of the gases in the fulgurite bubbles. They analyzed fulgurites from the Libyan Desert to determine that during the tail end of the last major ice age, that region was wetter, more fertile, and had a more diverse suite of plants.



Fulgurites have also provided clues about deep time. For example, research on fulgurite formation helped ground our understanding of how to recognize ancient meteorite impacts, such as the one that rocked our planet at the end of the Cretaceous. That's because lightning vaporizes rocks and sediment, like impacts do.

Fulgurites are mineralogical oddities, scientific tools, and the stuff of lore. Some find their blobby root-like appearance rather drab, whereas others find them downright mysterious. Next time you're in Great Sand Dunes National Park, keep your eye out for one yourself. It just might spark your imagination.

## DISCOVER MORE

Chelsea Bitting is a geology intern and Dr. James Hagadorn is the Tim and Kathryn Ryan Curator of Geology in the Earth Sciences Department. The fulgurite is preserved in the Avenir Collections Center. Find out more at [dmns.org/science/research/earth-sciences](https://dmns.org/science/research/earth-sciences).

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Below: Fulgurite (DMNS EGR.704R) from Boulder County, Colorado. This specimen is rare because fulgurites are fragile, making them challenging to collect.





## UPGRADE TODAY AND RECEIVE FREE TICKETS TO SEE THE DEAD SEA SCROLLS

Deepen your passion for nature and science next year by joining the Giving Club! In addition to supporting scientific discovery and STEAM education, upgrading your membership to the Curator level gives you access to special events and exclusive benefits throughout the year. Curator members enjoy:

- **NEW! Complimentary Flex Tickets (14)** to redeem for yourself or friends and family. Attend popular programs such as Science Lounge, select evening lectures, and surcharged temporary exhibitions, or use them for IMAX, Planetarium, or simply Museum admission. Design your benefits based on your personal interests.

- **Free admission to *The Dead Sea Scrolls***, opening in March! Use your *Flex Tickets* to enjoy this once-in-a-lifetime opportunity to marvel at these world-heritage artifacts, such as the scroll jar at right.

- **First access to summer camp registration.** Upgrade now and be the very first (before General Members) to sign up in January 2018 for the Museum's incredibly popular summer camps!

- **Invitations to special events** throughout the year, including the popular Behind-the-Scenes Night and IMAX Night, just for Giving Club members.

As a Giving Club member your gift supports ongoing scientific research, preserves rare artifacts, and fuels lifelong discovery in the millions of people served by Museum exhibitions and programs.

Upgrade today by logging in to your online Museum account, and enter promo code UF17-GMUPGCRE to start enjoying additional benefits right away. Or find out more at [dmns.org/givingclub](http://dmns.org/givingclub).



## PLAN NOW FOR AN ENDURING FUTURE

Since its founding, vital community and individual support has allowed the Museum to grow into a thriving institution. By planning now for the future, you have the opportunity to ensure that the Museum's mission endures for generations to come. There are many options for creating a planned gift that will meet your needs while supporting the Museum. Find downloadable brochures and a free Estate Planning Kit to help you get started or evaluate your current plan @ [dmns.planmylegacy.org](http://dmns.planmylegacy.org).

## COLORADO GIVES DAY

Support the Museum on Colorado Gives Day, an annual opportunity to celebrate philanthropy in our beautiful state through online giving. On Tuesday, December 5, thousands of Coloradans will come together to support nonprofits such as ours. Last year, donors demonstrated unprecedented generosity by giving \$33.8 million in 24 hours. The most common donation was \$100, showing the power of our community's commitment.

Your donation on Colorado Gives Day will go directly to the Museum's scholarship fund, which makes memorable science education experiences possible for underserved students. By contributing to the Museum through Colorado Gives, you will help excite and inspire the next generation of scientists and critical thinkers!



Giving is easy and secure through the Colorado Gives website. When you give online any time on December 5, the value of your donation will receive a boost from the \$1 Million Incentive Fund. You may also schedule your donation in advance beginning November 1. For more information and to find out how your gift can make an impact, visit the Museum's donation page at [coloradogives.org/dmns](http://coloradogives.org/dmns).



## A UNIQUE GIFT FOR YOUR YOUNG PROFESSIONAL

If you are looking for the perfect gift for the young professional in your life, consider a Young Professional (YP) membership at the Museum.

YP members receive unlimited Museum admission year-round for a total of eight guests in a party (each visit), discounts and exclusive invitations, opportunities for networking and volunteering, and free tickets to fun events, such as the very popular Science on Tap and After Dark Soiree.

Find out more about the benefits of YP membership at [dmns.org/YP](http://dmns.org/YP). The back cover of this magazine has all the details on how to purchase a gift membership today. We look forward to seeing your young professional at the Museum!

## MAKE A MATCH

As you consider your end-of-year giving, keep in mind that your employer may be one of 10,000 companies that match employee donations to nonprofits such as the Museum. Memberships qualify for matching too! Find out more at [dmns.org/give/matching-gifts](http://dmns.org/give/matching-gifts) or see your employer's personnel office for more information and forms.

## FUEL YOUR MUSEUM

Support the artifacts, exhibitions, and experiences you love by donating your used car, boat, motorcycle, truck, or RV to the Museum. We are partnering with Cars Helping Charities to give you the opportunity to quickly and easily donate a vehicle in any condition. Find out more or schedule a pickup at [dmns.org/give/vehicle-donation](http://dmns.org/give/vehicle-donation) or 866.697.0697.



## BE THE SCIENCE

BY NICOLE L. GARNEAU, PhD

"Mom, can we do the taste study? Please?"

Staff and citizen scientists working in the Museum's Genetics of Taste Lab often hear this plea when children realize they can participate in real research. This real working lab inside *Expedition Health* provides a unique opportunity for individuals ages 8 and up, families, and groups of friends to be a part of authentic scientific research that is relevant to their everyday lives. Let's face it, everyone eats!

If you think of your DNA like a cookbook for your body, then your genes are like the recipes for how your body looks and works. Small differences in our DNA recipes (genes) make us unique in ways we can see, like hair color, and in ways we can't see, such as how we detect tastes. The Genetics of Taste team studies how these small DNA differences affect taste and related issues, such as nutrition. Taste research is not only a great foundation for making discoveries about overall health but also offers a welcoming environment for people to learn about human genetics.

A \$1 million grant from the Science Education Partnership Award program (SEPA) at the National Institutes of Health is helping us dig a little deeper by funding three studies. The second study is now open to the public. The new Savory and Sour Study explores what happens to umami (the savory taste of protein) when we add increasing amounts of sour (the taste of acidity), and whether small changes in one of the genes for umami detection might affect this interaction.



This project is made possible by a Science Education Partnership Award from the National Institute of General Medical Sciences, National Institutes of Health (Award # R25OD021909).

Scientists have known the small changes in our DNA from one person to another can mean that some people taste bitter more strongly than someone else. What we know less about is what happens when you mix two tastes together. Information about how sour can change the taste of something important like umami, without things like added salt, can help make food healthier.

Individuals must be at least 8 years old (with a legal guardian if 8–17) to be eligible. Participants can expect a 30-minute experience that includes informed consent, a series of taste tests of water samples flavored with umami and sour, a buccal swab for cell (DNA) collection, and a few questions about their ability to taste. They will learn more about themselves and how they taste things differently than their friends and family members, leave with a thank-you packet and recipes to experiment with taste at home, and take a fun photo with their our cache of fake (and ridiculously awesome) sour and umami foods and dishes.

Results from previous studies in the Taste Lab have provided evidence against the theory of supertasting, showed there is a heredity component to tasting fat, and led to the creation of new scientific methodology for studying taste. The team is currently raising funds for analysis of the sour data collected from 2016–17, and has just begun analyzing the microbiome and sweet taste data sets. Stay tuned!

The Lab also offers another way to participate: becoming a community scientist. These team members are dedicated volunteers who are involved in every level of the scientific process, from study design to DNA extraction on through to publication. For our next study a year from now, we are even involving our community scientists in the selection of the study topic. Applications are currently being accepted from scientists across the country through the end of 2017.

We look forward to seeing you and your family and friends in the Genetics of Taste Lab!

## DISCOVER MORE

Dr. Nicole Garneau is curator and chair of the Health Sciences Department, and the principal investigator for the NIH SEPA grant.

Participating in the science in the Genetic of Taste Lab is free with general admission and available first-come, first-served. To schedule an appointment, email [genetics@dmns.org](mailto:genetics@dmns.org).

For more information on previous studies and discoveries, visit the display outside the Lab or [dmns.org/genetics](http://dmns.org/genetics).



## MEMBERS-ONLY CREATURES OF LIGHT

They light up our lives, but have you ever wondered how? Delve into the world of living things that blink, glow, flash, and flicker, from tiny fireflies in the backyard to strange creatures in the ocean's depths. In the new exhibition *Creatures of Light*, explore the mysterious world of bioluminescence, visible light generated by living things through a chemical reaction. Immersive environments and simulations, and engaging hands-on activities create an enlightening experience.

Admission to this exhibition is free for members, but reservations are required for all events and space is limited! Reservations open on Monday, January 8. Walk-up tickets will not be available. Exhibition entry by timed ticket due to gallery capacity. Only *Creatures of Light* will be open on Members-Only Evenings.

## MEMBERS PREVIEW DAY Thursday, February 22 • 9 a.m.–9 p.m.

See it before it opens to the public!

## MEMBERS-ONLY EVENING Tuesday, February 27 • 6–9 p.m.

An optional prepurchased dinner will be available. See menu and pricing at [dmns.org/memberevents](http://dmns.org/memberevents).

## MEMBERS-ONLY EVENING 21+ Tuesday, March 20 • 6–9 p.m.

\$50 member, \$60 nonmember  
In addition to an adults-only evening in *Creatures of Light*, enjoy hors d'oeuvres and a cash bar followed by dinner. See menu at [dmns.org/memberevents](http://dmns.org/memberevents).

## GET THE MOST FROM YOUR MEMBERSHIP

- Visit anytime for free 364 days a year!
- Download or update your eCard. Find out more at [dmns.org/ecard](http://dmns.org/ecard).
- Read the monthly eNews with members-only news, tips, and special offers. Not receiving eNews or advance notifications? Send your email address to [members@dmns.org](mailto:members@dmns.org).
- Keep your membership current with Auto-Renew, an easy automatic renewal process. Enroll @ 303.370.6306 (daily, 9–5) and get a free gift. Your expiration date is printed on the mail label on the back of this magazine.
- Add another adult to your membership for just \$50. This is a great option for nannies and grandparents, and the add-on member enjoys many benefits! Not valid on Individual level memberships.
- Visit 360 science centers and museums using your free admission through the ASTC Passport Program. Free admission begins outside a 90-mile radius of Denver and your residence. Find out more @ [astc.org/passport](http://astc.org/passport).
- Upgrade to the Family Plus level or higher and enjoy additional benefits as well as free admission at the Fort Collins Museum of Discovery.

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## WE'RE HERE FOR YOU

- 303.370.6306 (daily, 9–5)
- [members@dmns.org](mailto:members@dmns.org)
- [www.dmns.org/members](http://www.dmns.org/members)
- Members Lane at Ticketing



## A THOUGHTFUL GIFT

Give everyone on your list—family, friends, neighbors, colleagues, and staff—a FULL YEAR of fun and adventure with a Museum membership! You will directly support the Museum's mission to ignite a passion for nature and science. Thank you!

### THIS GIFT PROVIDES MANY BENEFITS:

- Free admission to the Museum 364 days a year. Members may drop by for an hour or stay all day.
- Discounts in the Museum Shops, T-Rex Cafe, Grab 'n' Go Deli, and Coffee Lab.
- Discounts on surcharged temporary exhibitions, including *The Dead Sea Scrolls*, opening in March.
- Discounts on educational programs for all ages, and early access to our very popular Summer Day Camps.
- Invitations to exclusive events, such as Members Preview Day for temporary exhibitions.
- Free admission to more than 360 science centers and museums worldwide.

### PURCHASING A GIFT MEMBERSHIP IS EASY!

- Go online @ [dmns.org/giftmemberships](http://dmns.org/giftmemberships).
- Buy onsite in the Members Lane at the Ticketing Desk.
- Call 303.370.6306 (daily, 9–5).

To receive membership materials by mail prior to December 24, please complete your purchase before 11:59 p.m. on Wednesday, December 13, after which you may pick up a membership gift packet with a blank gift card at the Members Lane.



# DISCOVER

ADULTS | CHILDREN | FAMILIES | TEENS

WINTER 2017







EVERY 3RD THURSDAY  
*The* SCIENCE  
*Lounge*



## DECEMBER

Science Lounge is on holiday. Cheers to another fabulous and seriously scientific year. We'll see you in 2018!

## JANUARY 18: CRAPPY NEW YEAR

Flush out the past and start a new year with an appreciation for defecation. Learn about coprolites (fossil poop), animal scat, and manufacturing excrement in the microscopic world of wonders that is the digestive system. Get the facts on water sanitation with the global nonprofit Water for People.

## FEBRUARY 15: JUNGLE LOVE

Learn the secrets of seduction with mating dances, animal pickup lines, and more from the suavest creatures of the animal kingdom. Discover your inner romantic persona, whether it be the strutting peacock or the dancing spider. Cupid's arrow has *nothing* on bright plumage and sweet moves.

BUY TICKETS AT [DMNS.ORG/SCIENCELOUNGE](http://DMNS.ORG/SCIENCELOUNGE)  
\$13 MUSEUM MEMBER, \$15 NONMEMBER

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# WINTER 2017

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## EXHIBITIONS

### Ultimate Dinosaurs

Now through January 15 • Phipps Gallery • free for members

Meet *T. rex*'s biggest, baddest, newest members of the family! This experience goes beyond familiar dinosaurs to showcase some of the most spectacular fossils unearthed in recent years.

### Nature's Amazing Machines

Now through January 1 • Anschutz Gallery • free for members

Discover how a giraffe's heart pumps blood to its brain, how a toucan stays cool, how it might feel to fly, and other marvels of nature's ingenuity.

### Creatures of Light

Opens February 23

Delve into the world of living things that blink, glow, flash, and flicker, from tiny fireflies in the backyard to strange creatures in the ocean's depths.

### The Dead Sea Scrolls

March 16–September 3

See authentic Dead Sea Scrolls—ancient manuscripts that include the oldest known Biblical documents dating back over 2,000 years—along with hundreds of historical artifacts that explore the origin of the modern world.

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## PHIPPS IMAX 3D THEATER • Now showing

*Conquest of the Skies 3D*

*Dream Big 3D: The Science of Engineering*

*Incredible Predators 3D*

Hollywood Favorites • check [dmns.org/imax](http://dmns.org/imax)

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## GATES PLANETARIUM • Now showing

*Black Holes: The Other Side of Infinity*

*Cosmic Journey*

*Destination Solar System*

*One World, One Sky: Big Bird's Adventure*

*Space Tours Live*

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## ADMISSION


	MUSEUM	IMAX	PLANETARIUM
Adult member	FREE	\$7	\$5
Senior member (65+)	FREE	\$6	\$4
Child/Junior member (3–18)	FREE	\$6	\$4

The Museum is open daily 9 a.m.–5 p.m., with extended hours at various times. Closed December 25. Dates, times, prices, and schedules subject to change. Find more ways to discover @ [dmns.org](http://dmns.org).



On the cover: Ivory figurine of dog sled (AC.5451), Bering Strait Inupiat, Alaska, mid-20th century



# DECEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
	Discover more @ <a href="http://dmns.org">dmns.org</a>				1	2
	Geography of People, p. 8		Chasing Coral, p. 5	Bird Walk, p. 7 Great Space Escape, p. 5		Family Physics, p. 9
3	4	5	6	7	8	9
SCFD Community Free Day  CULTURE MAKING IT POSSIBLE		Dinosaurs, p. 5				
10	11	12	13	14	15	16
				Winter solstice		
17	18	19	20	21	22	23
	Winter Break Day Camp, p. 11					
24	Museum closed					
31	25	26	27	28	29	30

# JANUARY

SUN	MON	TUE	WED	THU	FRI	SAT
	Happy New Year  <i>Nature's Amazing Machines</i> closes	Winter Break Day Camp, p. 11				Alebrijes children's workshop, p.
	1	2	3	4	5	6
	SCFD Community Free Day 		Indigenous Film, p. 6	Mexican Art, p. 6	Teen Lounge, p. 11	
7	8	9	10	11	12	13
	<i>Ultimate Dinosaurs</i> closes			Science Lounge, inside cover		Engineers Morning Out (Families), p. 10
14	15	16	17	18	19	20
Dissection Connections (Families), p. 10	Educators Night			Great Space Escape, p. 5		
21	22	23	24	25	26	27
SCFD Community Free Day 		John Fielder, p. 6	60 Minutes in Space, p. 6			
28	29	30	31			



# FEBRUARY

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	Meet Charles Darwin, p. 7	Travels with Darwin, p. 7  Mammals Origins, p. 8  Stay up with the Stars (Families), p. 10	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

# AFTER HOURS



AT THE MUSEUM

Encounter new ideas, cutting-edge science, and captivating individuals.



## Chasing Coral: An Epic Adventure about Our Changing Oceans

The Museum is pleased to partner with The Nature Conservancy for a special presentation of *Chasing Coral*. Featuring footage from more than 30 countries, this film delves into the ongoing disappearance of coral reefs at an unprecedented rate. A team of divers, photographers, and scientists embark on an exhilarating ocean adventure to explore the reasons and to shed light on the phenomenon known as coral bleaching. Experience an

adventure that took over three years to film in all its visual brilliance. The evening includes a discussion with a member of the *Chasing Coral* team and TNC senior scientist Stephanie Wear. Admission is free, however, reservations are required.

Wednesday, December 6 • 7 p.m. • Phipps Theater • Free

## The Great Space Escape for Adults Only

It's old-school night in Gates Planetarium! Take a live tour through the universe guided by certified Museum astro-nerds in this newly extended show. Cash bar opens 30 minutes before showtime, so come early and grab a drink.

Thursdays, December 7 or January 25 • 7 p.m. • Gates Planetarium • \$15 member, \$18 nonmember • Ages 21+

## Dinosaurs of the Great Red Island

As you'll discover in the exhibition *Ultimate Dinosaurs*, the Great Red Island, commonly known as Madagascar, has been isolated for more than 88 million years, even though it's separated from the southeast coast of Africa by less than 300 miles. David Krause, senior curator of vertebrate paleontology, and Joe Sertich, curator of dinosaurs, have studied Madagascar's unique fossil record for years. Discoveries in the northwestern Mahajanga Basin have revealed an incredibly diverse and well-preserved assemblage of dinosaurs and other animals that thrived on Madagascar approximately 67 million years ago, nearly all new to science. These dinosaur hunters will share firsthand the amazing opportunity to work at this singular location on our planet and how ongoing expeditions continue to reveal significant scientific findings.



Tuesday, December 12 • 7 p.m. • Phipps Theater • \$12 member, \$15 nonmember

WINTER 2017 | RESERVATIONS 303.370.6000 OR [WWW.DMNS.ORG](http://WWW.DMNS.ORG)



## Indigenous Film Series

The Denver Museum of Nature & Science is pleased to partner with the International Institute for Indigenous Resource Management and the Denver American Indian Commission to present Indigenous Film, a monthly indigenous film series. Join us for a wide variety of films, from documentaries to feature films and youth film showcases. Following the film, participate in a discussion with the Commissioners of the Denver American Indian Commission and other special guests. Concessions available for purchase. Check [dmns.org](http://dmns.org) for film titles. No program in December.

Wednesdays, January 10, February 14 • 6:30 p.m. • Phipps Theater • free

## Mexican Art: New Traditions

Experience an evening of exploration and magical expressions with local Chicano artist Jerry Vigil. Vigil is known for his wood-carved Santos and Día de los Muertos sculptures, using materials such as wood and paper-mache that are common in traditional Mexican folk art as well as among contemporary artists, toy makers, and the creators of *alebrijes*. Explore the temporary exhibit *El Alebrije: Una Historia En Comun* ("A History in Common"), on loan from El Museo de Arte Popular in Mexico City, and also enjoy a behind-the-scenes tour of the Museum's anthropology collections focused on Mexican art objects.

Thursday, January 11 • 7 p.m. • \$27 member, \$33 nonmember



## A Colorado Winter with John Fielder and Jon Kedrowski

With over 60 years of combined experience as outdoor adventurers, acclaimed photographer John Fielder and ski-mountaineer Jon Kedrowski will take you on a journey through Colorado's winter splendor. With a backdrop of beautiful music, Fielder will share his favorite scenes from 40 years of exploring the Colorado backcountry on skis. Kedrowski will lead you to some of the best ski descents the state has to offer. A book sale and signing for both Kedrowski's *Classic Colorado Ski Descents* and Fielder's *A Colorado Winter* will follow the presentation.

Tuesday, January 30 • 7 p.m. • Phipps Theater • \$15 member, \$18 nonmember

## 60 Minutes in Space

Go "behind the stories" in space science with space scientists Steve Lee and Ka Chun Yu using the best images and animation available to help understand new developments. No reservations required. Seating is limited to first-come, first-served. No program in December.

Wednesdays, January 31, February 28 • 7 p.m. • Ricketson Auditorium • free

## Meet Charles Darwin

Commemorate Darwin's birthday by spending an evening with the affable Charles Darwin. Enactor Brian "Fox" Ellis is back by popular demand to bring Darwin to life. Hear humorous tales of Darwin's training as a naturalist, his insights into South American geology, his discovery of strange creatures on the Galápagos archipelago, and most important, the scientific evidence that led to his revolutionary theory. Equal parts dramatic storytelling, stand-up comedy, and show-and-tell, Ellis immerses you in the intellectual world of one of history's greatest scientific minds.

Monday, February 5 • 6 p.m. or 8 p.m. • member: \$15 adult, \$10 child • nonmember; \$18 adult, \$13 child

## Travels with Darwin

Charles Darwin, brought to life by enactor Brian "Fox" Ellis, leads you on this unique tour through the Museum's dioramas. Meet Darwin in South America and walk on over to the Galápagos Islands. He will give exclusive insight into the specimens in our dioramas and background on the evidence behind his "rEvolutionary" ideas. Hear stories of his discoveries, including dozens of the 10,000 specimens he collected. Ask questions and get to know this great man during this special daytime program.

Tuesday, February 6 • 7:30 a.m. • \$27 member, \$33 nonmember

## BIRD WALKS & TRIPS

### Eastern Plains Raptors

Winter can be an exciting time on the Eastern plains of Colorado as winter raptors patrol the prairies and waterways for prey. Begin your journey looking for majestic hunters like the rough-legged hawk, golden eagle, and the prairie falcon. In the afternoon, travel to Jackson Lake State Park, where long-eared owls winter among the Russian Olive Thickets.

Thursday, December 7 • 7 a.m.-6 p.m. • \$27 member, \$35 nonmember

### Foothills Winter Birding

By midwinter in Colorado most lakes and reservoirs are frozen. The South Platte River remains open and becomes home to thousands of ducks, geese, grebes, and other waterfowl. Explore several sections of the river and then move to nearby upland wooded areas to search for wintering raptors, woodpeckers, sparrows, and finches.

Thursday, February 22 • 8 a.m.-4 p.m. • \$27 member, \$35 nonmember





## The Florida Keys: Birding and More

Key West conjures images of Ernest Hemingway and Jimmy Buffett, conchs and coconuts, and beach bums and umbrella drinks. To birders, Key West inspires quite different images: roseate terns, black-whiskered vireos, white-crowned pigeons, and Bahama mockingbirds. On this wide-ranging adventure, you will see amazing birds and other wildlife at Everglades National Park, National Key Deer Preserve, and Dry Tortugas, and as the ferry passes Bush Key, you will see the vast nesting colony of brown noddys and sooty terns, and perhaps even a masked booby! Includes transportation to and from Fort Lauderdale airport, all hotel accommodations, breakfast daily, one lunch and two dinners, and all entry fees.



April 28–May 5 • \$3,275 single occupancy, \$2,575 double occupancy • information & reservations: Leisure West Tours, 303.659.4858/888.443.3350, [www.leisurewesttours.com](http://www.leisurewesttours.com)

## COURSES

### Geography of People

Join geologist Bob Reynolds and use the state-of-the-art visualization technology of Science on a Sphere in *Space Odyssey* to examine Earth's geological framework and how it influences our human habitat. Humans have spread across the entire globe, and our population grows daily. Though we strain our resource base, innovation and education have the potential to mitigate many challenges, and wise planning will help future generations lead more secure lives.

Tuesday & Thursday, December 4 & 6 • 6:30–8:30 p.m. • \$20 member, \$25 nonmember

### Mammals: Origins and Evolution

Paleontologist Lou Taylor takes you through the origin and evolutionary trends of mammals. Study fossils from the collections as you explore the rise of modern mammals, strange beasts that once lived in Colorado, mammals that migrated among the continents, and mammals that lived and became extinct in the Pleistocene Epoch.

Tuesdays & Thursdays, February 6–20 • 6:30–8:30 p.m. • \$110 member, \$140 nonmember

## CANOE TRIPS

Paddle along scenic rivers while soaking in the sun and gaining new knowledge about geology, wildlife, astronomy, and dinosaurs. Reservations and information: 720.283.0553, [www.CentennialCanoe.com](http://www.CentennialCanoe.com)

### Beer Tasting on the Yampa

Nicole Garneau, curator of health sciences and a taste expert, will lead you on a beer tasting journey as you explore remote areas of our beautiful state on a gentle, enchanting 33-mile stretch of the Yampa River, the last undammed tributary of the Colorado River system teeming with colorful vegetation, picturesque views, and wildlife.

June 8–10 • \$436 adult • Ages 21+ only

## Stargazing on the Gunnison

Embark on a memorable weekend with astronomer Naomi Pequette as you revel in both earthbound scenery and the breathtaking skies above. Without the interference of city lights, learn about planets, constellations, and deep space.

June 15-17 • \$436 adult, \$406 child (6-12 years)

## Geology and Archaeology by Canoe on the Upper Gunnison

With geologist Bob Raynolds as your guide, marvel at colorful sandstone walls hundreds of feet high and explore canyons and ancient rock art. Canoe down this epic stretch of river, hike and explore the Dominguez Canyon Wilderness Area with waterfalls and petroglyphs, and camp along the river's edge.

July 20-22 • \$436 adult, \$406 child (6-12 years)

## Dinosaurs by Canoe on the Gunnison

Experience fascinating rock formations from the age of the dinosaurs, and paddle your way along the Gunnison River with educator Samantha Sands as your time-travel guide. Camping along the river's banks and exploring Dominguez Canyon will leave you awed by the immensity of geologic time.

July 29-31 • \$436 adult, \$406 child (6-12 years)

## Archaeology and Western History on the Green River

Museum educator Jennifer Moss Logan shares stories of those who left their mark on the local landscape, from ancient native peoples to the colorful characters whose adventures brought them westward. For both the adventurer and historian at heart.

August 8-12 • \$691 adult, \$661 child (6-12 years)

## FAMILY PROGRAMS

### Ultimate Family Dino Fun • All ages

There's a different dino to delight everyone in the family at this prehistoric pizza party celebrating our latest temporary exhibition *Ultimate Dinosaurs*. Check out some of the most spectacular fossils unearthed in recent years as you venture through the exhibition, find out how fossils form, and explore the ancient past with dinosaur hunter Joe Sertich.

Thursday, November 30 • 6-8 p.m. • member: \$20 adult, \$15 child/junior • nonmember: \$25 adult, \$20 child/junior

### Family Physics Junior Edition • Grades PreK-1

Start your Museum visit off with science educator Brian Hostetler as we explore the BOOMing science of sound. This 30-minute presentation is designed for our younger family audience with children in preschool through 1st grade.

Saturday, December 9 • 10-10:30 a.m. • \$5 member or nonmember, adult or child

### Family Physics • Grades 3-6

Spend the morning with science educator Brian Hostetler as we explore the BOOMing science of sound. This program will include more bang for the buck with more than 45 minutes of interactive physics demonstrations!

Saturday, December 9 • 11 a.m.-noon • member: \$12 adult, \$8 child/junior • nonmember: \$15 adult, \$10 child/junior



## Engineers Morning Out for Families • Grades K-5

Get your build on first thing in the morning! Enjoy a special screening of *Dream Big 3D* in Phipps IMAX Theater, then let out your inner engineer by designing buildings, bridges, and more. Coffee and breakfast snacks will be available for purchase.

Saturday, January 20 • 8:30–11 a.m. • member: \$12 adult, \$8 child/junior • nonmember: \$15 adult, \$10 child/junior

## Family Fun: Dissection Connections • Grades 2-9

The family that dissects together stays together! With a skilled Museum educator as your guide, observe the dissections of a sheep brain, lung, and heart, and cow eye as you learn about amazing body systems.

Sunday, January 21 • 10 a.m.–2 p.m. • \$40 member pair, \$50 nonmember pair

## Stay up with the Stars • All ages

Families, join us after dark as Museum educators and astrophysicists walk us through the incredible Colorado night sky. After dinner at the Museum, watch planetarium shows, see your favorite winter constellations through high-power telescopes (weather permitting), and make your own star-studded crafts. You'll be plenty warm with hot chocolate available to stave off the cold as you explore the cosmos!

Tuesday, February 6 • 6–8 p.m. • member: \$20 adult, \$15 child/junior • nonmember: \$25 adult, \$20 child/junior



## CHILDREN'S WORKSHOPS

### Alebríjes • Grades 3-6

Explore a fascinating collection of *alebrijes*, fanciful, brightly colored sculptures of guardian spirits (*nahuales*). The Museum is hosting a display of alebrijes on loan from the Museo de Arte Popular of Mexico City. Join a professional artist to learn about this beautiful artwork, and then make your own alebrije to take home.

Saturday, January 6 • 9 a.m.–3 p.m. • \$60 member, \$70 nonmember

### Junior Surgeons • Grades 2 & 3 / Cutting Edge • Grades 4-6

Observe and perform dissections to find out how the human body functions. Dissect chicken wings, sheep lungs and hearts, and cow eyes. Examine real bones, listen to your own heartbeat, and more!

Saturday, February 24 • 9 a.m.–3 p.m. • \$60 member, \$70 nonmember

## TEENS

### Teen Lounge • Ages 13-17

Teens take over the Museum at this unique free event! Venture through Museum exhibits, get hands-on with entertaining activities, jam to music, and win awesome giveaways. Chill with friends and eat free snacks. Reservations highly recommended.

Friday, January 12 • 7-10 p.m. • Free

## SCHOOL BREAK CAMPS • GRADES K-2 & 3-6

Looking for something amazing for your kids to do during the breaks from school? At the Museum, your child will experience fun and wonder, see IMAX films and planetarium shows, and explore the marvels of our temporary exhibitions. Different activities each week. Limited early morning drop-off and late pickup options available.

### WINTER BREAK

Tuesday-Friday, December 26-29 • Tuesday-Friday, January 2-5 • 9 a.m.-3:30 p.m. • \$210 member, \$235 nonmember

### SPRING BREAK

Monday-Friday, March 19-23 • Monday-Friday, March 26-30 • 9 a.m.-3:30 p.m. • \$260 member, \$290 nonmember

## SUMMER DAY CAMPS 2018

Mondays-Fridays, June 14-August 10

### FULL-DAY SUMMER CAMPS • GRADES K-6

Get your brains and bodies moving! Learn and play as we experiment, create, build, ask questions, and develop a knowledge and passion for science. Our camps are led by experienced educators, with assistance from trained teen volunteers, to give everyone the best opportunity for fun and learning.

9 a.m.-3:30 p.m. • \$260 member, \$290 nonmember • bring a lunch and drink each day

### SUMMER HALF-DAYS • AGES 4 & 5

Tiny budding scientists will enjoy fun, engaging Museum experiences led by experienced educators that will open their eyes and minds to the amazing world around them!

9-11:30 a.m. or 1-3:30 p.m. • \$140 member, \$170 nonmember

### Early and Late Care

When you register for camp, add early check-in (beginning at 7:30 a.m.) or late check-out (ending at 5 p.m.) for \$30 each for the whole week!

### Online Registration only at [dmns.org](http://dmns.org)

Mark your calendar! Registration opens for members on Tuesday, January 23. Become a Giving Club member and receive advanced registration on Monday, January 22.

### At-a-Glance Schedule and Preparation for Registration

Please note, Summer Camps are extremely popular and sell out quickly. Visit [www.dmns.org/summercamps](http://www.dmns.org/summercamps) to start planning your child's Museum adventure.



## **RESERVATIONS AND GENERAL INFORMATION**

303.370.6000, daily, 9 a.m.–5 p.m., or [dmns.org](http://dmns.org)

## **MEMBERSHIP OFFICE**

303.370.6306 or [members@dmns.org](mailto:members@dmns.org)

## **RENEW YOUR MEMBERSHIP ONLINE**

[dmns.org/members](http://dmns.org/members)

## **PRINT-AT-HOME TICKETS**

Print-at-home tickets are available for exhibitions, IMAX and Planetarium shows, and lectures and programs, and there's no handling fee! When you arrive at the Museum, proceed directly to the ticket takers or to your program. Please always bring your membership card and photo ID when you visit the Museum. There is a \$2 handling fee per ticket for surcharged exhibitions reserved by phone.

## **E-CARD: BENEFITS AT YOUR FINGERTIPS**

The free eCard app is so much more than just a convenient way to store your member number! You'll receive instant access to your members perks and benefits. Find out more @ [dmns.org/ecard](http://dmns.org/ecard).

## **E-COMMUNICATIONS**

Receive a monthly newsletter with updates and special offers as well as advance notices and other insider information when you share your e-mail address with us at [members@dmns.org](mailto:members@dmns.org).

## **CONFIRMATION**

For After Hours programs, classes, field trips, and programs for families and teens, you will receive a reminder e-mail with directions for entering the Museum.

## **REFUND POLICY**

Sales are final on all tickets unless the Museum cancels the event.

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## **USE YOUR MEMBERSHIP OFTEN! WE'RE OPEN 364 DAYS A YEAR!**



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DINO DEPOT - LEVEL 3



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GRAB & GO SANDWICHES, SNACKS – LEVEL 1  
COFFEE LAB – LEVEL 2  
9 a.m.–5 p.m.

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