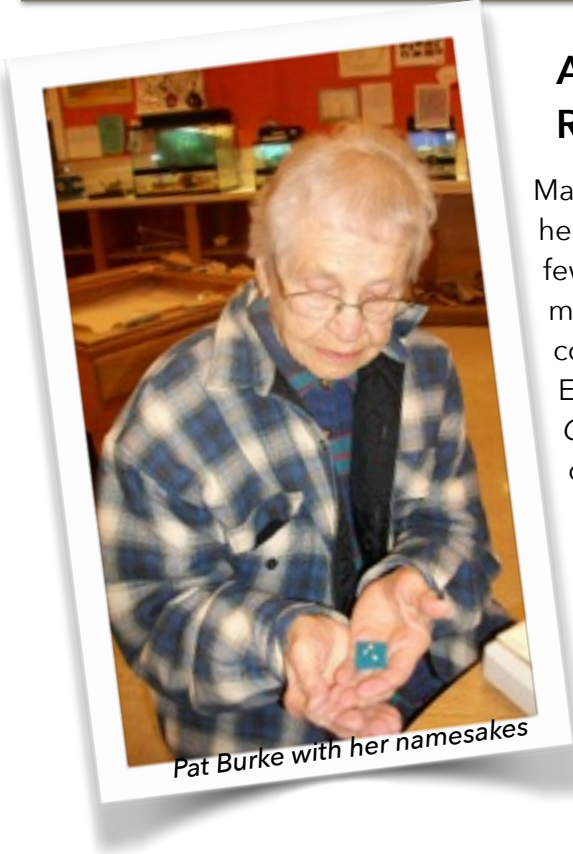




Volunteer Association Newsletter



Pat Burke with her namesakes

A TINY SHELL GETS A REALLY COOL NAME!

Many of you know Pat Burke and her passion for fossils, but I'll bet few of you know of her interest in modern seashells. It may also come as a surprise that Tom Eichhorst, the editor of the *Conchologist of America's* quarterly journal, *American Conchologist*, and author of a book on a family of shells known as *nerites* lives right here in our state.

In sorting through thousands of shells for his book, Tom discovered there were a number of shells that

were not properly identified and had been lumped together so that a species name contained more than one species. Tom decided to honor Pat by naming a shell after her: **Smaragdia patbuearke**. The shell is not very large, only around 5 - 7 mm in diameter, but it is a very pretty shell: translucent tan with cream and coffee markings. From what I gathered from Pat, it has a wide distribution in the South Pacific.



Smaragdia patbuearke, Eichhorst, 2015

CONGRATULATIONS, PAT!

-Michael Sanchez

Naturalist Center / School Programs Educator

CONTINUING EDUCATION SEMINAR

DATE: March 31, 2015

TIME: 10:30 am

WHERE: MPR

SPEAKER: Mike Sanchez

THEME: Connections

Mike will address the subject: **EVOLUTION - SKIMMING THE SURFACE OF THE GENE POOL.**

This talk will include information on molluscan evolution and phylogeny that will be used for an upcoming permanent exhibit of shells from the Museum's Biological Collection.

Also, a **WHAT'S NEW** session will include Bud Hodgkin with commentary on the genetic connection between the ancient alligator gar fish (140 MYA and still with us) and your house mouse, a remarkable discovery recently established by Neil Shubin and his group.

All volunteers, docents, and tour guides are encouraged to attend.

-Bud Hodgkin, Coordinator,
Continuing Education Committee

A NEW FISH NAMED KIRBY

Protopterus annectens

Can you believe that we have had a “newish” lungfish for over a year now! Our “Kirby Too” came to the Museum via a donation from Clark’s Pet Emporium in November 2013. When Kirby arrived, she, he, or, for the time being *it*, was a tiny (9 cm long) pinkish - yellow critter with billowing external gills and a half missing pelvic fin. *It* looked as fragile as tissue paper and was so good at hiding that a question frequently asked by visitors was “What lungfish?” or “Where?” What a change! Kirby can no longer hide, and, this February, had a mouse for lunch!



Kirby Too on arrival

So... What is a lungfish? There are six species of lungfish, four from Africa, one species from South America and one from Australia. The African and South American species are more closely related and belong to the same Order (*Lepidosireniformes*) The Australian lungfish is in an Order of its own, *Ceratodontiformes*. When first described, they were classified as amphibians (frogs, toads, etc,) because they breathe air and behaved much differently from any fish anyone from Europe had ever seen!

Fossil History

Fossil lungfish have been found as far back as the Devonian period, making the group at least 360 million years old. Fossil teeth from lungfish can be found in Triassic (220 million year old) deposits in our state.



Fossil lungfish tooth

There are two theories explaining the origin of lungs. One theory is that lungs evolved in bony fishes to cope with poor water conditions. After bony fishes began to expand their range into oxygen rich environments, lungs were no longer essential for survival. In these groups, lungs then evolved into a swim bladder (an air-filled sack found in most bony fishes); since an animal's flesh is heavier than water, were it not for the swim bladder, the fish would sink. The second theory is that lungs are essentially modified swim bladders. Swim bladders came first, then, the swim bladder evolved into lungs in those fishes living in oxygen-poor environments.



Modern lungfish tooth plate

Biology

All lungfish live in fresh water. Many inhabit ponds and streams that can become stagnant or even dry up during the dry season. To cope with this rigorous environment, lungfishes evolved lungs and will come to the surface to breathe, drawing in air through the mouth. Some species have both gills and lungs, but will still surface occasionally.

The South American Lungfish lacks gills altogether and will drown if not allowed to surface!

The lung is divided into two spaces (exception: the Australian lungfish's lung is a single chamber) and is similar to those found in most other air-breathing animals, with alveoli (small sacs) covered with a network of tiny blood vessels.

Lungfish are not the only fishes that can use air to breathe. Members of the *gourami* family and (*gouramis betas*), gar fishes, bichirs, some catfish and even goldfish have been observed coming to the surface to breathe. Some of these fishes have perfectly functional gills; they only breathe air when oxygen in the water is low.

CONTINUED FROM PAGE 2

Members of the genus *Protopterus* are distributed over most of equatorial Africa, living in swamps, lakes, and periodically flooded locations from the Atlantic coast to the Indian Ocean. *Protopterus annectens* is known to also live in large permanent lakes.

Life Cycle

Over the course of a typical year, the lungfish's habitat periodically dries out. As this occurs, lungfish begin to burrow into the pond's mud. They wrap themselves up tightly and form cocoons around their bodies. The entrances to the burrows are then plugged with mud. Several holes are bored through the mud so the fish can breathe. They enter a state of *anabiosis* (similar to hibernation but stimulated by heat and dry rather than cold) buried in the mud, breathing only with their lungs, waiting for the rainy season to refill their water holes. Sometimes, they have to wait, and wait, and wait, and wait, and wait. Lungfish have been known to survive for periods of up to four years in an anabiotic state.

In order to survive, they may have to metabolize their own muscle tissues, losing length as well as weight. During these periods, they are also forced to tolerate their own metabolic wastes, including, among other things, urea concentrations some 100 times greater than those required to kill most other vertebrates.

Once the rains begin, these animals almost immediately come back out of the mud. Shortly afterwards, they start spawning. Lungfish build nests (hollows) that can be 21 inches in diameter. Eggs and hatchlings are watched over by the male. In at least one species, the South American Lungfish, the father develops feathery growths on his pelvic fins that oxygenate the water for the developing babies.

Diet

The African and the South American species consume aquatic gastropods, small fish, and some plant material. Algae is also a food source, especially for juveniles.

Interesting Information

- Lungfish are said to be good to eat. When there is plenty of water, they are caught by conventional means (hook and lure). During the dry season, people often go lungfish fishing with hoes!
- Adult Australia lungfish can grow to be as much as seven feet long and can weigh over 100 pounds!

-Mike Sanchez, Naturalist Center Educator

Remembering Peggy Owens

Our long-time volunteer Peggy Owens (full name Margaretha Dahmen Owens) died in early February. She was the niece of Theodore Geisel (Dr. Seuss). For many, many years before we got the volunteer hours computer program, Peggy kept track of all of the volunteers' hours, manually, and created the awards list each year for the volunteer appreciation event.

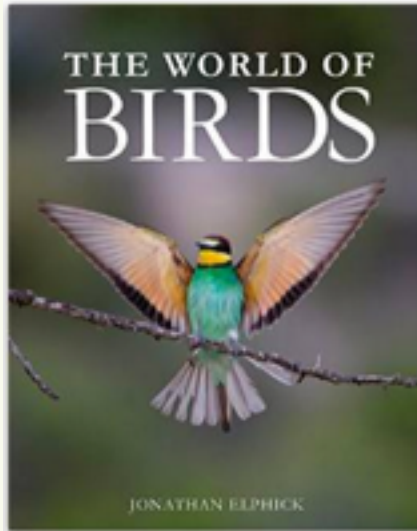
When she retired from volunteering with us she had the most hours ever (at that time) of any volunteer and a special award was created in her name (The Peggy Owens Lifetime Achievement Award) for volunteers who make extraordinary contributions.



There will be a memorial service for her at 10:30 am on March 7 at St Chads Church on Tennyson NE.

BOOK REVIEW: *The World of Birds*

The World of Birds by Jonathan Elphick., photographs by David Tipling. Buffalo, NY: Firefly Books, 2014. (QL673 E467 2014)



This new book is an ideal companion to the exhibit ***Birds of Paradise***. The author says in the Introduction, *"In this book my aim is to provide a succinct and accessible guide to many of the most important aspects of bird biology, combined with an account of every one of the almost 200 families of birds alive today."* (page 4) Heavily illustrated with photographs and drawings, the book was originally published by the Natural History Museum of London. Measurements are given in both metric and imperial.

The book is divided into two major sections: Chapters 1 - 9 provide basic information starting with early birds and then covering anatomy and physiology, flight, food and feeding, bird society and populations, breeding, where do birds live, migration, finishing with birds and humans; Chapter 10 is the families grouped into orders.

[The information in *Chapter 1, Early Birds* is an overview. If you want more information, the Volunteers' Association Library does have books on this topic, for example: *Feathered dinosaurs: the origin of birds* by John A Long and Peter Schouten. (QE862 D5 L582 2008) and *The Rise of birds: 225 million years of evolution* by Sankar Chatterjee. (QL677.3 C48 1997).]

"Birds have not left a rich fossil record. Nevertheless, new fossils are being discovered, and through many other studies more data is being continually added. ... Similar features that initially suggested relationships may turn out to be the result of convergent evolution. ... Most profound in its effect on how birds are classified have been the revolutionary techniques of DNA analysis. ... This has led to other surprising reassessments of relationships." (Introduction, page 5) In his descriptions of the various orders, the author notes new evidence that may change into which order species are classified. He is conservative in his approach and keeps species in traditional orders.

Chapter 10, Families takes up almost half of the book. At the book's end is an index of bird families and names. Although this is a British publication, the author also includes North American names. Looking up birds of paradise, you find them on pages 503-504. Our exhibit talks about 39 species in New Guinea and Australia. A 40th specie is mentioned as living on the Moluccan islands of Indonesia. As with the other entries, basic information such as length, weigh, range and habitat, social behavior, nest, incubation, fledging period, food, voice , migration and conservation status are in a box at the beginning of the entry. Each family also has an entry, so, for birds of paradise, the family *Crows and Jays Corvidae* (pages 499-501) starts the section and this family falls under the order *Passeriformes* (pages 447-448). As would be expected, birds of paradise are also mentioned in the section on Courtship, page 152, which has a photo of a male Magnificent Bird-of-Paradise.

This work is not designed as a guidebook, but rather as a reference work.

Your librarian, Mina Jane Grothey
mgrothey@unm.edu

JUNIOR DOCENTS: MANY OF WHOM EARNED PINS LAST YEAR

- *Bryce Atherton*
- *Atalie Brown*
- *Jesus Chardoner-Meijer*
- *Tessa Coffelt*
- *Sarah Compton*
- *Charlie Helmich*
- *Jakob Newcomer*
- *Rachel Rhykerd*
- *Jesse Rivera*
- *Jacob Sailer*
- *Kiernan Sanders-Reed*
- *Robert "RJ" Sikes*
- *Chris Stordahl*
- *Duncan Weeks*

The Junior Docent program provides a comprehensive, hands-on, museum experience for middle and high school students. Students learn about the nature of museums as places of education and entertainment and the many museum career opportunities available. A key feature of the program is the opportunity to work with volunteer adult mentors, Museum scientists, and educators while learning about the importance of community volunteerism. Our goal is to have students gain a wider appreciation for science and its related fields.

See page 11 for information about our 2015 Program!

*Kelly J. White
Educator/Junior Docent Coordinator*

SUCCESSFUL FOP FOSSIL EXPEDITION NEAR SAN LUIS

On October 25th, twenty-seven members of the Friends of Paleontology (FOP) visited an area north of San Luis, New Mexico. Members prospected for fossils in the late Cretaceous Menefee Formation (Allison member), south of Cuba and north of San Luis, New Mexico.

We found, documented the location of and collected vertebrate fossils including; a dorsal vertebra, caudal vertebra, skull fragments and an osteoderm from four different individual dinosaurs. We also found crocodile teeth.

Fossils are scarce in the Menefee Formation, thus the specimens that we did find are somewhat rare and therefore useful additions to the Museum's collections.

Even though most of the participants did not find fossils, the weather was beautiful and all the FOP members seemed to have a good time.



Tom Suazo Examines the Finds

-Jim and Mary Moore

Naturescapes 2015

The theme for the 2015 Naturescapes photo salon is "Colors of Nature in New Mexico." Start taking photographs now to submit in summer 2015. More details to come!

March - April 2015
Museum Adult and Family
Educational Programs

MARCH

February 28 and March 1 • Special Event
NM Bird Experts

March 6 • Adult Class
Minerals and Jewelry

March 7 • STARTUP Studio Workshop

March 10 • Curator's Coffee
Water and Energy

March 20 • Field Trip
Sevilleta

March 21 • STARTUP Studio Workshop

March 21 • for Teachers
Eggs Workshop

March 22 • Solar Sunday

March 26 • Prehistoric Preschool
Session 2 First classes

March 30 • Space Science
 Lunar Monday

APRIL

April 4 • Space Science
Lunar Eclipse

April 5 • First Sunday

April 11 • STARTUP Studio Workshop

April 11 • Special Event
Symphony of the Soil special showing

April 16 • Lecture
New Horizons Mission

April 22 • Special Event
Earth Day

April 25 • STARTUP Studio Workshop

April 27 • Space Science
 Lunar Monday



LECTURE

**The New Horizons Mission: On the
 Threshold of the Pluto System**

John Spencer, Ph.D.
 Southwest Research Institute

April 16, 2014 • 7:00 pm - 8:30 pm

On July 14th, 2015, NASA's New Horizons spacecraft will make the first-ever encounter with Pluto, its giant moon Charon, and retinue of four smaller satellites. The Pluto system is unlike any place previously explored and promises spectacular discoveries. Dr. Spencer will discuss the many remarkable things that we already know about the Pluto system, the long journey of New Horizons from conception to the launchpad and to Pluto and beyond and how we will use the spacecraft to revolutionize our understanding of Pluto and its surroundings.

Dr. John Spencer is a scientist at the Southwest Research Institute in Boulder, Colorado, and member of the New Horizons science team. He studies the moons and other small bodies of the outer solar system. He was a science team member on the Galileo Jupiter mission and continues to work on the science team of the Cassini Saturn mission. He was involved in the discovery of oxygen on the surfaces of Jupiter's icy moons and helped solve the mystery of the surface of Saturn's moon Iapetus. A native of England, he earned his PhD in Planetary Sciences from the University of Arizona in 1987.

Held at the New Mexico Museum of Natural History & Science, 1801 Mountain Rd. NW, Albuquerque, NM 87104 • (505) 841-2800

Visit: www.nmnaturalhistory.org

\$6 (\$5 members, \$4 students) Museum Volunteers are FREE. Purchase in advance online to guarantee your seats, go to www.NMnaturalhistory.org or purchase tickets at the admissions desk the night of the event. Doors open at 6:15 pm.



CURATOR'S COFFEE

A Café Style Program

Join us for a casual discussion followed by a themed tour. Limited to 15 people and includes coffee, light refreshments, and Museum admission.

The Energy-Water Nexus in the Western U.S.

Vincent C. Tidwell, Ph.D.

Sandia National Laboratory

Tuesday, March 10, 2015 9:30 am - 11 am

Join this discussion about the use of water for energy production and the use of energy for water delivery in the Western US. Dr. Tidwell will look at how energy and water use vary across the West and how demands could be changing in the future. The impacts of climate change and development on water resources and the environment will be considered.



Dr. Vincent Tidwell is a Distinguished Member of the Technical Staff at Sandia National Laboratories and part of the EPSCoR energy research partnership with this Museum. He has over 20 years of experience conducting and managing research on projects in water resource management, nuclear and hazardous waste storage/remediation, and collaborative modeling. Currently he is leading several studies that are helping local, state, and federal entities understand and adapt to issues of water, energy, and climate change. Dr. Tidwell is also a Lead Author for the Land-Water-Energy chapter for the 2013 National Climate Assessment.

\$8 (10% discount for members and volunteers)

Pre-registration required. Limit 15 participants. To guarantee your place, register online, go to www.NMnaturalhistory.org Questions: August Wainwright, email: programs.NMMNHS@state.nm.us call (505) 841-2861



ADULT CLASS

Creative Wire: Minerals and Jewelry

Camille Argeanas, artist

Jayne Aubele, geologist

Friday, March 6, 2015 • 9:00 - noon

Learn a few fun things about New Mexico's minerals and then create your own handcrafted wire jewelry for yourself or for gifts. This class is geared for adults and older children, ages 12 and above. No prior experience required. If you have taken this class previously, learn more and take home more finished jewelry.

The class fee includes all materials.

Camille Argeanas, a native New Mexican, is a nationally known artist who has transformed the use of wire to create jewelry.

Jayne Aubele is a Adult Programs Educator/ Geologist at the Museum. Over the years, she has taught adult classes in all aspects of geology.

\$45 (10% member and Museum volunteer discount)

Pre-registration required. For more information or to guarantee your place in this class, register online, go to www.NMnaturalhistory.org



It's that time of year again!

 **FIELD TRIP**

Sevilleta National Wildlife Refuge

Friday, March 20, 2015 • 9 am to 6 pm

TRIP LEADERS:

Dr. Scott Collins, UNM

Dr. Ayesha Burdett, NMMNHS

The Sevilleta National Wildlife Refuge (SNWR), established in 1973, is part of the the National Wildlife Refuge System, a network of lands and waters set aside to conserve America's fish, wildlife, and plants, managed by the U.S. Fish and Wildlife Service. The refuge includes four major ecological zones ranging from Chihuahan desert to the riparian forest of the bosque. Home to approximately 1,200 species of plants, 225 species of birds, 50 species of reptiles, 100 species of mammals, and 15 species of amphibians, the refuge plays host to numerous research sites that monitor ecological change. Much of the refuge is off limits to the public.

See an area that the public rarely gets to see, including the SNWR field station, lab building, and reserve research sites including prairie dog restoration and piñon-juniper drought experiment sites.

Dr. Scott Collins is Regent's Professor of Biology and the Loren Potter Chair of Plant Ecology at the University of New Mexico. His research focuses on the interactive effects of fire, grazing, and climate variability on grassland ecosystems. He is Past President of the Ecological Society of America. He earned his Ph.D. from the University of Oklahoma.

Dr. Ayesha Burdett is the Bioscience Curator at the Museum. She is a freshwater ecologist who lives in the desert, where water is a precious resource. She earned her Ph.D. in Environmental Science from Charles Sturt University, Australia.

Cost: \$45 (10% discount for Museum members and Museum volunteers)

Preregistration is required. Space is limited to 20 participants. Adults only.

Go to www.NMnaturalhistory.org for registration. Participants will meet at the Museum and depart at 9 am. Transportation will be provided. Field Trip participants should bring their own lunch and water plus shoes

or boots appropriate to the weather and the landscape. Dress prepared for the weather. The trip will return to the Museum by 6 pm. Photography will be permitted. Questions: call August Wainwright at 841-2861, or email programs.NMMNHS@state.nm.us

 **::: STARTUP Studio Workshops :::**

For families (children age 6 and up), students, and adults. Workshops are held in the Highlands Classroom at the Museum.

INSTRUCTOR: Miles Tokunow, artist and graduate student in Media Arts at New Mexico Highlands University

What's inside a computer? A Reverse Engineering Workshop

Saturday, March 7 • 1 - 4 pm

Get your hands dirty taking apart electronics! Highlands University Professor Stan Cohen and Miles Tokunow will share their insights on the 'guts' of computing!

Circuit Bending: An introduction to tinkering with electronics

Saturday, March 21 • 1 - 4 pm

Don't know what to do with an old toy keyboard or Furby? Create strange and new sounds with these old electronics as you learn about circuits, schematics, and sound.

Intro to Video Games: Scratch Programming

Saturday, April 11 • 1 - 4 pm

Create your own mini-games with Scratch, a programming language and educational tool. Non-beginners are encouraged to join!

Intro to Arduino: Scratch for Arduino Programming

Saturday, April 25 • 1 - 4 pm

Make LEDs dance to music with Scratch programming and Arduino microcontroller.

\$15 (Members and Museum volunteers, 10% discount) for each class

Pre-registration required. Go to www.NMnaturalhistory.org (linked to BrownPaperTickets.com). Questions: Contact August Wainwright at programs.NMMNHS@state.nm.us or call 505-841-2861

 **SPECIAL EVENT**
Symphony of the Soil - special film showing

Saturday, April 11, 2015 • 7:00 pm - 9:30 pm

Celebrate the 2015 International Year of Soils (IYS) with director/writer/producer, Deborah Koons Garcia for a special showing of her 103 minute documentary.

Although few think of dirt as scarce, in the United States topsoil is degrading in quality and quantity and cropland is eroding at least 10 times faster than the time it takes to replace it. Drawing from ancient knowledge and cutting edge science, *Symphony of the Soil* is an artistic exploration of the miraculous substance soil and its elaborate relationship with the atmosphere, water, plants, animals, and humans. Filmed on four continents, this film features scientists, farmers, and ranchers.

Ms. Koons Garcia will join us for discussion and questions.

Deborah Koons Garcia has called Northern California home for over thirty years and is a passionate filmmaker about environmental issues. She earned a master's in film from the San Francisco Art Institute.

This special film showing is sponsored by the U.S. Forest Service Collaborative Forest Restoration Program grant.

\$6 (\$5 members, \$4 students) Museum Volunteers are FREE

Held at the New Mexico Museum of Natural History & Science, 1801 Mountain Rd. NW, Albuquerque, NM 87104 • (505) 841-2800. Doors open at 6:15 pm.

Visit: www.nmnaturalhistory.org

Purchase in advance online to guarantee your seats, go to www.NMnaturalhistory.org or purchase tickets at the admissions desk the night of the event. Doors open at 6:15 pm.

Questions: August Wainwright
email: programs.NMMNHS@state.nm.us
call (505) 841-2861

 **SPECIAL EVENT**
Celebrate Earth Day 2015

Wednesday, April 22, 2015 • 2:30 pm - 5:00 pm

INSTRUCTOR: Cirrelda Snider-Bryan,
Early Childhood Educator / Kiwanis Learning
Garden Coordinator

Head to the Museum for an after-school program for the whole family. The celebration takes place in the Kiwanis Learning Garden at the Museum (parking lot garden with a windmill on east side of 18th street).

- Discover Urban Natives - Producers (plants) & Consumers (animals);
- Create an Earth Flag
- Have Fun with Wind Power
- Get Your Hands Dirty Planting & Pulling

FREE (with museum admission for April 22)

No registration required. Arrive at the garden with your Museum admission receipt.

Questions: Contact August Wainwright at programs.NMMNHS@state.nm.us or call 505-841-2861

**SPACE SCIENCE EVENTS****Exciting Changes Coming to
Space Sciences!**

Check www.nmnaturalhistory.org/planetarium.html for updates on new programs with our NEW planetarium projection system.

And come to see our new exhibit: *It Came from Mars: Martian Meteorites on Earth* with unique and rarely seen specimens on loan from UNM's Institute of Meteoritics.

LUNAR MONDAYS

March 30, April 27, 2015 • 7 - 8 pm
[Canceled if the sky is cloudy]

Join members of The Albuquerque Astronomical Society and study the moon in the museum's observatory. Learn how lunar features formed, and get the latest information from Lunar exploration missions.

No registration required. Admission by Donation

SOLAR SUNDAY

Sunday, March 22, 2015 • 10:00 am - 2:00 pm
[Canceled if the sky is cloudy]

View the sun through the Museum's and the Albuquerque Astronomical Society's specially-filtered telescopes. See the power of the Sun's light, heat, and radiation.

Kids can make solar-powered jewelry, sundials, and color their own sun. Learn about the tiny rocks that orbit the sun from the UNM Institute of Meteoritics. Find out more about astronomy from the ABC Library System's reading programs.

No registration required. Free with Museum Admission

(ALMOST) TOTAL LUNAR ECLIPSE

Saturday, April 4 • 4:30 am - 6:30 am
[Canceled if the sky is cloudy]

Normally, during a total lunar eclipse, the moon moves into the darkest part of the Earth's shadow. This eclipse will be unique since the moon will be close to the edge of the shadow and the tiniest sliver of it may stay sunlit when viewed from New Mexico. Get up early and see what happens! Doors will open at 4:30 am, shortly after the partial phase of the eclipse begins. The maximum eclipse, when the moon will appear darkest, occurs at 6 am and the moon will set shortly thereafter.

No registration required. Admission by Donation
Doors open at 4:30 am.

MUSEUM TOURS

Museum Exhibit Tours
Mondays • 1:30-2:30 pm

Take a docent-led, fact-filled, fun, guided tour of the Museum exhibits. Limited to 14 participants ages 13 and up. Meet in the Atrium at the stadium seating.

Free (with Museum Admission)

No registration required. First-come, first-served.

FOR TEACHERS ONLY

Eggs Eggs Everywhere

Literacy/Math/Science Workshop for Early Childhood Teachers

Saturday March 21 • 1 - 2:30 pm

INSTRUCTOR: Cirelda Snider-Bryan
NMMNHS Early Childhood Educator

Observe, explore, graph, role-play the world of eggs in water, on land, in movement, literature, and in New Mexico State animals that hatch from eggs.

Eggs Eggs Everywhere is a guided-discovery *Great Explorations in Math and Science (GEMS)* program from Lawrence Hall of Science in Berkeley.



Cost: \$20

Includes: copy of the *Eggs, Eggs Everywhere* *GEMS curriculum* for the first 20 registrants.

Preregistration required.

This professional development workshop is intended for early childhood teachers. Go to NMMNHS website for more info and to pre-register.

Questions: call August Wainwright at 841-2861, or email programs.NMMNHS@state.nm.us



PREHISTORIC PRESCHOOL

Prehistoric Preschool is a Museum program for 3- to 5-year-olds and their adult companions to explore natural history topics in a supportive and fun atmosphere. All activities are child-centered, hands-on, and age appropriate. Classes include two hours of crafts, songs, games, puppet shows, investigating specimens from the Museum's collections, Museum visits, and a fun and healthy snack.

All class participants must be accompanied by an adult. No more than two children per adult companion, and no more than two adults per child. Permission for attendance by siblings younger than 3 is made on a case-by-case basis with Early Childhood Educator. Maximum class size is 12 children and their adult companions.

Spring Session 2:

Day Sky - Night Sky

March 26 - May 9, 2015

Observe the sky, both during the day and at night - clouds, the sun and moon, and, *is that a star?*

We notice what we see and we will discover how it happens and why. Classes will include visits to the observatory and planetarium.

Preregistration is required.

\$90 for first child, \$81 for second child in the same family. 10% discount for Museum members or Museum volunteers. Scholarships available. Pro-rated registration available after classes have started.

For more information or to Register for classes, go to <http://www.nmnaturalhistory.org/preschool.html> Questions? August Wainwright at programs.NMMNHS@state.nm.us or (505) 841-2861

DON'T FORGET TO REGISTER FOR ...

Young Explorers Summer Science Camp 2015

Looking for summer fun for children from Kindergarten through 8th Grade?

Experience an adventure with the New Mexico Museum of Natural History & Science this summer! Explore mountains, climb volcanoes, dig fossils, and hike forest trails with experienced instructors.

Interested in space? Space camps for all ages will be offered. Discover the biology, geology, paleontology, ecology, and space science of our state. Create art through natural exploration.

Week-long, full-day or half-day camps for children entering Kindergarten through 8th grade.

Online registration began February 18, 2015

Camp sessions will begin in June. For camp schedules and registration information, visit www.NMnaturalhistory.org.

Museum Junior Docents 2015

CALLING ALL TEENS!

Are you a teen entering 7th grade - 12th grade this fall and 13 - 17 years old? Know anyone who is?

Join us on an adventure in science and technology as **JUNIOR DOCENTS** this summer!

Learn science content and put your customer service skills to work as you work as an educator in the Museum's exhibit halls. Special projects are available to draw on your interests and skills, and the field trips are just one of the perks!

Applications due: February 1 - March 15, 2015

(applications will be accepted after this window depending on availability).

Acceptance notification - on or after April 15th.

Training Week - June 1 - 5, 2015

Work weeks: June 6 - July 31, 2015

COST: \$175

Visit www.nmnaturalhistory.org/juniordocents for more information and applications or contact Kelly White, Junior Docent Coordinator at kellyj.white@state.nm.us

Coming Up!

Family Fun on a River Run! Rafting the San Juan River

June 17-20, 2015

Join us for a family rafting adventure next summer, floating 26 miles between Bluff and Mexican Hat, Utah. Learn about the natural history of this river ecosystem and the plants and animals of the area through games, stories and other fun activities. There will be lots of time for playing in and on the water. It is a great family experience!

For children 7 years and over with parent(s), grandparent(s), aunt(s) or uncle(s)—no experience necessary. Complete itinerary available.

EXPERT GUIDES:

Tish Morris: Tish has led this trip for the museum for many years and thinks a few days on the San Juan are just the best!

Kristin Gunckel, Ph.D.: Kristin, a veteran of many Museum raft trips, is a geologist, educator and faculty member at the University of Arizona and brings a wealth of knowledge and engagement with children to this trip.

Cost: \$715 adults, \$690 child under 12 (\$20 off for Museum members: \$695 adult/\$670 child)

Includes all food from dinner Day 1 through Lunch Day 4, expert staff, river guides, group equipment and supplies. Families meet in Bluff, Utah, on the evening of Wednesday, June 17th and get off the river and back to Bluff the afternoon of Sunday, June 20th. Camping equipment may be rented.

Co-sponsored by Four Corners School of Outdoor Education

Trip questions: tish.morris11@gmail.com

Additional information at www.NMnaturalhistory.org

Registration through:

Four Corners School of Outdoor Education:

<http://www.fourcornersschool.org/programs/southwest-ed-ventures-swed>

800-525-4456

May First Sunday May 3, 2015

May First Sunday

Special Event at the Museum

Celebrate
International
"Save the Frogs"
Day!



Talk with NM amphibian experts and attend a special presentations about NM frogs.

FREE to New Mexico Residents

The Volunteer Association Newsletter (The VAN)

The VAN is published bimonthly. There are six regular issues each year: January-February, March-April, May-June, July-August, September-October, and November-December with an occasional Special Issue. The deadline for submitting articles and photographs for the next regular issue is always the fifteenth of the month prior to the publishing date of that issue. The deadline for the **May-June** issue, for example, will be **April 15**.

Please send items for the VAN to Louise Harris, VAN Editor, <louise@goingourway.net>, with a copy to Chris Sanchez DCA <chris.sanchez@state.nm.us> and Doug Simon DCA <doug.simon@state.nm.us>

The VAN mission is to inform, engage, and enhance the experience of NMMNHS Volunteers by acting as a vehicle of continuing education, keeping volunteers informed about the Museum, and relaying news of volunteers and their activities.

*Your articles pertaining to the museum are most welcome.
Articles may be edited for clarity and space limitations.*

EDITOR'S REQUEST: Please put the word "VAN" in your email title when you submit an article or photo for the VAN. Thank you!
