



EARTHQUAKE

e-Newsletter about what's movin' and shakin' at the Earth Science Museum

Earth Science Museum, 3215 W. Bethany Home Rd., Phoenix, AZ 85017
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April 2017
Volume 6, Issue 4

ESM Outreach Update:

By Mardy Zimmermann, Outreach and Education Coordinator

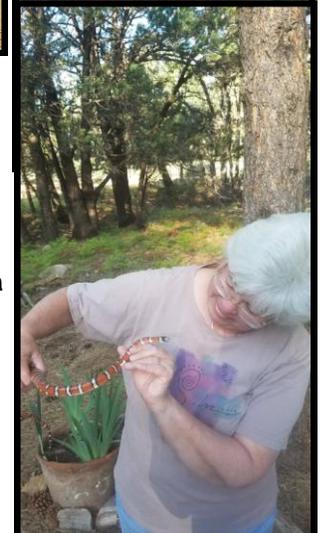
The month of April saw lower usage of our Outreach Program to Schools mostly due to heavy AZ Merit Testing, which is still ongoing. We did serve some new schools, including O'Connor Elementary in Mesa, Monte Vista Elementary in the Kyrene District, and Shirley Cote and I presented rocks and fossils to several classes at Gompers Rehabilitation Center. The total number served in April was 379, which brings our year to date total to 6,585. Our focus now will be changing due to the good news of the Mining and Mineral Natural Resources Museum which will begin planning in July. The ESM Board has begun discussion of how our Outreach Program will undergo changes for next year, with focus on designing a service model for other areas of the state without a museum. We will also be working with AZGS in developing ways to serve schools during museum visits.

We have applied for another grant from the Staples Foundation to establish a lending library of our successful classroom kits and hands on rocks, minerals, and fossils in the Roosevelt School District. Finding ways to serve our neediest students and districts is a challenge we hope to meet. At present I am working on getting 25 sets of the Classroom Kits prepared for a summer class for teachers sponsored by the Pima County Education group and the Tanque Verde District. AZGS and ESM are supporting this project.

Lynne & Terry Dyer are volunteering this summer at a LDS girl's camp in Pine, Arizona. They are senior seasonal service missionaries doing mostly custodial work. They have been involved with picking up dead wood, trimming trees, repairing broken water pipes, doing drywall work and painting. Other projects will include labeling of trees, bushes, poison ivy and other botanicals. Lynne placed a display case of local rocks, minerals and fossils in the main lodge of the camp. They are also enjoying all the elk, deer, and other wildlife in the area.



Display case of local rocks, minerals and fossils in the main lodge.

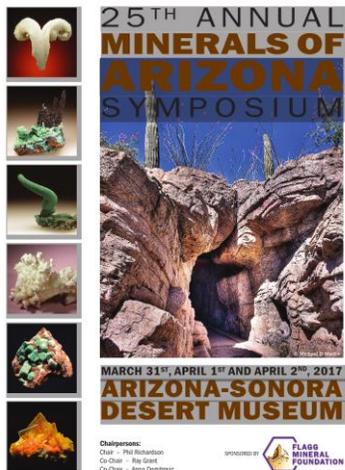


Lynne with deer and a king snake
Photos by Terry Dyer

LATE BREAKING NEWS - SB1415 - SEE PAGE 10

AZ Mineral Symposium Highlights

By Shirley Coté



Poster design by Don Boushelle with photos provided by Arizona-Sonora Desert Museum

ESM Board Members, Shirley Coté, Doug Duffy, Dr. Ray Grant, Dr. Jan Rasmussen and Chris Whitney-Smith attended the 25th Annual *Minerals of Arizona Symposium*, sponsored by the Flagg Mineral Foundation, March 31 through April 2nd.

This year's symposium was dedicated to the memory of Joe Ruiz 1924-2017 an avid field collector and mineral researcher who found many new minerals in Arizona and around the world. The mineral Ruizite from the Christmas mine in Arizona was named in his honor.

The symposium had its beginnings in 1992 when Dr. Ray Grant, who after attending many mineral symposiums in New Mexico, thought, "Why not have a Minerals of Arizona Symposium?" and proceeded to make it a reality.

One of this year's co-chairs Anna Domitrovic, Arizona-Sonora Desert Museum, is the only person who has given a presentation at all 25 symposiums.

Attendees on Friday were treated to an open house at the Arizona-Sonora Desert Museum's mineral vault. What a treat!

Over 100 mineral collectors, geologists and mineral enthusiasts attended Saturday's proceedings and enjoyed presentations on the following topics:

1. Piedmont Mine, Yavapai County, famous for its specimens of quartz-coated malachite pseudomorphs after azurite crystals by Barbara Muntyan.
2. Agates of the United States and the world by Pat McMahan who showed dozens of beautiful photographs from his new book *Agates*. (The following are pictures from his book by permission.)



Chimney Beds - this deposit is under claim



Brenda, AZ

3. Silver and Gold in Arizona, the Mining History and the specimens that resulted by Les Presmyk who revealed that “. . . a number of the copper mines and districts in Arizona owe their beginnings to gold and silver.”
4. Wulfenite, Arizona’s State Mineral by Dr. Raymond Grant who announced that Governor Doug Ducey signed the bill officially making Wulfenite Arizona’s Official State Mineral on March 22, 2017, culminating a two-year effort by Rep. Mark Finchem (District 11, which includes Pinal County) and Dr. Alex Schauss, University of Arizona with the help of Chris Whitney-Smith, Mineralogical Society and Earth Science Museum. Dr. Grant said that he currently has a list of about 273 wulfenite localities which are found in every Arizona County with the exception of Apache and Navajo Counties.
5. Geology of the Tucson Mountains by Dr. Jan Rasmussen provided evidence in opposition to the common misconception that the Tucson Mountains slid off the Santa Catalina Mountains along the Catalina detachment fault.
6. Genesis of a limestone Cave and Associated Mineralogy by Anna Domitrovic. Anna’s presentation included historic photos of the Desert Museum’s building of the artificial limestone caves located on its grounds. Anna explained that the most common minerals found in natural caves are aragonite, calcite and gypsum. She said these minerals can take on the various shapes of speleothems, like stalactites, stalagmites, cave pearls, coral; cave flowers and rams horns and she

showed photos from the Desert Museum’s collection.

7. Arizona Cerussite by Mark Hay. Mark focused his presentation on Arizona localities that have produced “collector-grade” cerussite which is one of the more common minerals found in secondary lead deposits. Cerussite is a lead carbonate and an important ore of lead. Several notable localities discussed were Bisbee, Tombstone, 79 Mine, Red Cloud Mine, Rowley Mine, Tiger, Flux Mine and Glove Mine.



Reticulated cerussite, Tiger mine, Pinal Co., AZ
Dick Morris collection
Jeff Scovil photo via Mark Hay



“Jack-straw” cerussite Flux Mine, Santa Cruz Co
Dick Morris Collection
Jeff Scovil photo via Mark Hay

8. What's New in Arizona Minerals by Ron Gibbs. Ron mentioned, among other topics, the addition of 123 mineral species were added to the AZ Mineral list bringing the known total to 919 with the Arizona type minerals list at 85 species from 33 localities. He also mentioned several new exhibits on display at the U of A Mineral Museum and at the Arizona-Sonora Desert Museum.

Each year at the mineral symposium, the Flagg Mineral Foundation awards the A.L. Flagg Distinguished Service Award which is presented to a member who exemplifies the ideals of Arthur L. Flagg who was never selfish with his time or knowledge. This year's recipient is Mike Williams of Gilbert for his work as Foundation Secretary, webmaster and in promoting the mineral collecting hobby. The award was presented by Bill Yedowitz at the mineral symposium on April 1, 2017.



Mike Williams received the 2017 A.L. Flagg Distinguished Service Award
Photo by Shirley Coté



SPECIAL NOTICE EARTH SCIENCE MUSEUM ANNUAL MEETING NOTICE

The Annual Meeting of the Members is set for Tuesday, May 9, 2017, 6:30 p.m.
Burton Barr Library, Room B,
1221 N. Central Ave., Phoenix

The public is invited to attend the ESM Annual Meeting where we review our progress over the past year and members vote for the Board of Trustees. Our organization continues to move forward with its efforts to excite and inspire all generations about earth sciences by providing exceptional, hands-on learning experiences about earth science. This is a rewarding undertaking, but it involves a lot of time and work. If you are a retired teacher or geologist or a passionate mineral enthusiast, we are in need of your help. Please become a member and volunteer to help at schools and events or become a board member.

(See page 12 for an application to become a member.)



Our volunteers go out to schools and community events to speak with students and adults about rocks, minerals and fossils.



Arizona Rocks 47

Text and photos by Ray Grant

Here is the description of South Mountain Park from the park's website: "At more than 16,000 acres South Mountain Park/Preserve actually consists of three mountain ranges, the Ma Ha Tauk, Gila and Guadalupe; and is one of the largest municipally operated parks in the country. It boasts 51 miles of primary trails for horseback riding, hiking and mountain biking for all ability levels. From the park's main entrance, you can drive up the Summit Road 5.5 miles to Dobbins Lookout and spectacular valley wide views or you can continue to the Gila Lookout for a view of the Gila River Valley."

There are two main rock units and smaller amounts of several other rocks present in the park. The west half is the Estrella Gneiss and the east half is the South Mountain Granodiorite. The Estrella Gneiss is Precambrian in age about 1.7 billion years old. It is a mixture of several types of gneiss with quartz, feldspar, hornblende, muscovite and biotite in varying amounts. The South Mountain Granodiorite is Mid-Tertiary in age about 25 million years old. (Granodiorite would often just be called granite, especially in the field. The difference between granite and granodiorite is that granite contains quartz and microcline with no or a small amount of plagioclase and granodiorite will contain equal amounts or more plagioclase than microcline along with the quartz.) For more information on the geology of South Mountain see Stephen Reynolds, 1985, Geology of South Mountains, Central Arizona, Arizona Geological Survey Bulletin 195.

Estrella Gneiss, black is hornblende and white mostly plagioclase & Hidden Valley formed from boulders of the granodiorite.

Gold was discovered at South Mountain in the late 1800s and was mined at different times until 1942. The main mine was the Max Delta Mine located in the center of the mountains. Several million dollars worth of gold along with some silver and copper were recovered. There were 7 shafts, one 550 feet deep and numerous tunnels in the area. The gold occurs in quartz veins and probably was deposited from solutions associated with the South Mountain Granodiorite intrusion.



Simplified geologic map of South Mountain from Reynolds 1985, stippled area is South Mountain Granodiorite, clear area is Estrella Gneiss, black is areas with gold mines and prospects, and hatched lines are dikes that were associated with the deposition of the gold.



Looking south at Telegraph Pass, the low area, it is where the gneiss and granodiorite are in contact. To the right is the gneiss (mostly out of the picture) and to the left the granodiorite (the rocks seen in the picture).



AZ Rock & Gem Shows



Mohave County Gemstoners
Annual Gem & Mineral Show
May 6-7, 2017
Saturday 9-5
Sunday 10-4
Free Admission
Kingman Academy of Learning
3420 N. Burbank Ave.,
Kingman, AZ



Prescott Gem and Mineral Club
Prescott Gem & Mineral Show
August 4-6, 2017
Friday & Saturday 9-5
Sunday 9-4
Admission \$5, Seniors/Students \$4
Children under 12 Free
Prescott Valley Event Center
3201 N. Main St.
Prescott Valley, AZ

WHITE MOUNTAIN GEM & MINERAL CLUB
PRESENTS
20th GEM, MINERAL & FOSSIL SHOW
Club website: <http://www.whitemountain-azrockclub.org>

JEWELRY, GEMS, MINERALS, FOSSILS, BEADS
LAPIDARY EQUIPMENT and SUPPLIES, DISPLAY CASES,
DOOR PRIZES, SILENT AUCTION, RAFFLE, WHEEL OF FORTUNE,
CHILDREN ACTIVITIES, and MORE

MAY 27-28, 2017
SATURDAY 9:00 am - 6:00 pm
SUNDAY 10:00 am - 4:00 pm

LOCATION
HON-DAH RESORT & CONFERENCE CENTER
Junction of State Routes 73 & 260
Pinetop, Arizona 85935

SHOW COORDINATOR
Gary Alves
(928) 679-3644
Garyalves.chairman@gmail.com

ADMISSION
ADULTS \$2.00
JUNIORS (18 and under with Student ID) FREE (accompanied by an adult)
SENIORS 70 & Over \$1.00
Sponsor is a Non-Profit Organization

Bisbee Annual Show
May 27-28, 2017
Sat. 9-5, Sun. 9-5
Free Admission
Queen Mine
478 N Dart Rd
Bisbee, AZ

Coconino Lapidary Club
Rock, Gem & Mineral Show
June 2-4, 2017
Fri., Sat. 9-5, Sun. 9-4
Free Admission
Outdoor Market
Hwy. 89N and Silver Saddle Road
Flagstaff, AZ



West Valley Rock & Mineral Club
Helzarockin' Gem & Mineral Show
October 6-8, 2017
Fri-Sat 9-4
Sun 9-2
Adult's \$3 kinds under 13 free
Helzapoppin' Arena
802 N. 1st St (Miller Road)
Buckeye, AZ



Huachuca Mineral and Gem Club
43rd Annual Huachuca Gem,
Mineral & Jewelry Show
October 14-15, 2017
Sat. 9:00 - 5:00
Sun. 10:00 - 4:00
Free Admission and parking
Cochise College
901 N. Colombo Ave.
Sierra Vista, AZ

Wickenburg Gem & Mineral Society
Wickenburg Gem & Mineral Show
November 25-26, 2017
Sat 9-5
Sun 10-4



Free Admission
Wrangler Event Center
251 S. Tegner St.
Wickenburg, AZ

Rock & Gem Clubs



Apache Junction Rock & Gem Club

Meetings are on the 2nd Thursday
Next Meeting: May 11, 2017, 6:30 pm

www.ajrockclub.com

@ Club Lapidary Shop

2151 W. Superstition Blvd., Apache Jct.



Daisy Mountain Rock & Mineral Club

Meetings are on the 1st Tuesday
Next Meeting: May 2, 2017, 6:30 p.m.

www.dmrmc.com

@ Anthem Civic Building

3701 W. Anthem Way, Anthem



Maricopa Lapidary Society, Inc

Meetings are on the 1st Monday
Next Meeting: May 1, 2017, 7:00 pm

www.maricopalapidarysociety.com

@ North Mountain Visitor Center
12950 N. 7th St., Phoenix



Mineralogical Society of Arizona

Meetings are on the 2nd Thursday
Next Meeting: May 11, 2017, 7:00 pm

www.msaz.org

@ Franciscan Renewal Center,
5802 E. Lincoln Dr., Scottsdale

Next Meeting



Pinal Gem & Mineral Society

Meetings are on the 3rd Wednesday
Next Meeting: May 17, 2017, 7:00 pm

www.pinalgemandmineralsociety.org

@ Artisan Village

351 N. Arizona Blvd., Coolidge



West Valley Rock & Mineral Club

Meetings are on the 2nd Tuesday
Next Meeting: May 9, 2017, 6:30 pm

www.westvalleyrockandmineralclub.com

@ American Legion Post #53

402 E. Narramore Ave., Buckeye



White Mountain Gem & Mineral Club

Meetings are on the 1st Sunday
(unless a Holiday then 2nd Sunday)

Next Meeting: May 7, 2017, 1:00 pm

www.whitemountain-azrockclub.org

@ VFW Hall

381 N. Central, Show Low

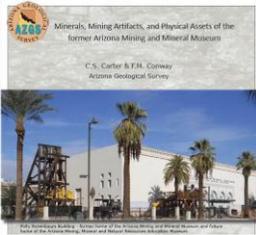


Wickenburg Gem & Mineral Society

Meetings are on the 2nd Friday
Next Meeting: May 12, 2017, 7:00 pm

www.wickenburggms.org

@ Coffinger Park Banquet Room
175 E. Swilling St., Wickenburg



AZ Mining, Mineral & Natural Resources Education Museum Update April 2017

By Michael Conway

G'day Friends of the AZ Mining, Mineral and Natural Resources Education Museum (MMNRE):

The following is a progress report on the MMNRE Museum. Notably, we just published a 24-page Open-File Report, '[Mineral, Mining Artifacts, and Physical Assets of the former Arizona Mining and Mineral Museum](#)'. See the cover image above. The report includes 8 tables and several dozen images characterizing the nature, origin and scope of both the mineral and the mining artifact collections. We thank Jan Rasmussen for reviewing an earlier version and for pointing to several areas in which the manuscript was deficient. Of course, any mistakes or overlooked features lie directly on our shoulders.

The update includes key accomplishments and sections on outreach, upcoming events, and challenges.

SB1415, which transfers the museum permanently to the Univ. of Arizona, is faring well in the AZ Senate and House. Keep your fingers crossed.

Please let us know if you have any concerns or questions. I suspect an increase in MMNRE activity after SB1415 is signed into law. More on that later!

MMNRE-AZGS team
Mike Conway, Rowena Davis & Catie Carter (Curator)

AZGS' MMNRE has accomplished a number of things since our last update; key accomplishments are noted below. Please let us know if you have questions, concerns or ideas for moving forward.

- On 4 April 2017, we released AZGS Open-File Report, '[Mineral, Mining Artifacts, and Physical Assets of the former Arizona Mining and Mineral Museum](#)'. The 24-page report documents the history, nature and scope of the AMMM mineral and mining artifacts collection – see attachment & Fig. 1.
- AZGS-MMNRE staff, M. Conway, R. Davis and C. Carter, attended the Museum Association of Arizona's Annual Conference on 3 April 2017. We participated in the 'Starting from Scratch' panel discussion describing the challenges, successes and pitfalls of museum start-ups. Other participants included the [Arizona Farm and Ranch Experience](#) and the [Tohono O'odham Nation Cultural Center and Museum](#).
- SB1415, introduced by AZGS senate champion Senator Gail Griffin in Jan. 2017, will transfer the Polly Rosenbaum Building, physical assets of the former Arizona Mining and Mineral Museum, and ~\$425,000 annual operating and maintenance budget to the University of Arizona. The bill has performed well in both the Arizona Senate and House. Senate and House members are just now reconciling proposed allocated funds with Gov. Ducey's proposed budget, but the future of SB1415 looks bright.

- Thousands of people viewed MMNRE's exhibit '*Minerals from Historic Mining Districts*' at the February 2017 Tucson Gem and Mineral Society Show. We received a number of compliments from prominent, and not-so-prominent, members of the Arizona mineral community for the quality and aesthetic appearance of the display. TGMS provided a large display case (66"x22"x28") and a \$300 stipend to offset AZGS costs.
- AZGS staff continues to reach out and cultivate relationships with individuals in both the museum community and the natural resources research community.

Outreach

- ✓ We are finalizing a small-scale prototype of 'Mining Powers the Arizona Experience' on the 3rd floor lobby of the Arizona Senate Building (see the graphic on following page). The exhibit includes mineral and ore specimens from Cochise, Greenlee, Maricopa, Mojave and Yavapai Counties, along with displays showcasing the past, present and future of Arizona mining. We'll include a poster on industrial minerals, 'Turning Mountains into Mole Hills – Building Arizona out of sand & gravel'.
- ✓ Catie Carter is collaborating with Mardy Zimmerman, Earth Science Museum Outreach, and the Roosevelt Elementary School District, Phoenix, to establish a lending library of teacher's mineral kits to assist teachers in presenting minerals and mineral properties, including their uses and benefits to human society.
- ✓ On 15 March, we hosted a table at the 'Mining Day of the Capitol' on the Capitol Mall in Phoenix.

Attendees included state legislators.

- ✓ In March 2017, we released '[Exploring Northern Arizona's San Francisco Volcanic Field](#)' Story Map. Over the past month the Story Map has been viewed over 1,300 times.
- ✓ On 25 February, Catie Carter hosted a table at Paradise Valley elementary school STEAM event presenting the physical characteristics of minerals and informing teachers, parents, and students of the goal of AZGS-MMNRE staff to repurpose the former Arizona Mining and Mineral Museum and reopen it as the MMNRE Museum.
- ✓ Filmed and posted to YouTube a short video describing MMNRE traveling exhibit, '[Minerals of Historic Mining Communities of Arizona](#)', hosted at the Arizona Capitol Museum, Phoenix.

Upcoming Events

- ✓ MMNRE curator Catie Carter will be attending the American Alliance of Museums 2017 Annual Meeting and Museum Expo in St. Louis, Missouri, 7-10 May 2017.
- ✓ Phoenix Zoo. We are collaborating with the Phoenix Zoo's Mike Foley in developing MMNRE branded outreach materials describing the geologic setting of the zoo grounds and environs. Under the auspices of the MMNRE, we'll collaborate with zoo staff to design and deploy a suite of geologic products – signage, paper products (geologic - zoo *scavenger* hunt), and electronic products – Story Map, and social media program to engage zoo visitors in the geology of the Phoenix Basin. Additionally, we hope to deploy a traveling exhibit of Phoenix-area minerals and rocks thus promoting the MMNRE.

- ✓ South Mountain Park Environmental Center (SMPEC). We are working with Lisa Herrmann, Director of the SMPEC on deploying a traveling exhibit of South Mountain rocks and minerals. Additionally, we are collaborating with Dr. Ron Dorn (ASU Geography) and one of his graduate students on the impact of debris flows on neighborhoods adjacent to South Mountain.
- ✓ ABC's of Arizona's Natural Resources. An original social media program profiling Arizona's natural resources and the research efforts of UA, ASU and NAU in developing sustainable 'best practices' of those resources. Facebook and twitter posts deployed weekly beginning in mid-to late-April. The resulting ABC's graphics will be cataloged on Flickr.

Challenges

- We continue to struggle with the Arizona Boards and Commissions in appointing members to the MMNRE Advisory Board. It has been five months since first contact and while they have promised action, there has been no progress.

(Editor's Note: other pictures from this 4 page report are not included here.)

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LEGISLATIVE UPDATE - SB1415

On April 19th, the Arizona House Rules Committee passed SB1415 transferring the Polly Rosenbaum Building and the former AMMM mineral and mining artifact collections to the Univ. of Arizona. The bill came out of Caucus, too, so it's sailing along nicely. One more legislative step and it goes over with the budget bill to Gov. Ducey.

Among other things, SB 1415, reads, 'In coordination with the mining, mineral and natural resources educational museum advisory council established by section 27-111, 'the University of Arizona shall operate and maintain a mining,

mineral and natural resources educational museum as the state depository for collecting, cataloging and displaying mining, mineral and natural resources artifacts and specimens.'

Our thanks go to Senator Gail Griffin, her staff and colleagues for introducing and shepherding SB1415 to this point. We are almost there.

Bill SB 1415 is online at <https://apps.azleg.gov/BillStatus/GetDocumentPdf/449650>

Update 4-20-17 - SB1415 just went though it's 3rd reading and passed 53 to 0-6-1. Full steam ahead!

LATE BREAKING NEWS – SB1415

Update - On Friday, 28 April 2017, Gov. Doug Ducey signed SB1415 transferring the Polly Rosenbaum Bldg. and the physical assets of the former Arizona Mining and Mineral Museum to the University of Arizona.



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Pinal Geology & Mineral Museum

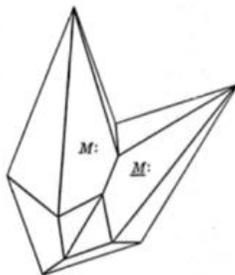
Pinal Museum and Club News

Please note the Artisan Village and the Museum will go to limited hours for the summer; starting in May we will be open from 9 to 12 on Saturdays only.

The Chamber of Commerce will be open Monday to Friday and when possible will take people around the village. Also, you can email me at raycyn@cox.net to set up special tours.

The next meeting of the Pinal Gem and Mineral Society will be on Wednesday May 17. The program will be Gold, Silver, and Copper in Pinal County by Ray Grant.

A new very large calcite specimen is on display in the Museum; it is from near Dinamita, Durango, Mexico and was donated by Dana Slaughter. What is unusual about the specimen is that it is composed of twin crystals. Twinning in minerals follows certain rules and can only happen in certain crystallographic directions versus the random intergrowth of crystals.



Twin on $\{022\bar{1}\}$.

Next Gem and Mineral Club meeting -
Wednesday, May 17, 2017

www.pinalgemandmineralsociety.org



ESM's Upcoming Meeting

The Earth Science Museum's next scheduled Board meeting on May 9, 2017, at the Burton Barr Library, located near Central Ave. and McDowel in Phoenix at 6:30 p.m. in Rm. B. Everyone is welcome to attend.

BECOME A MEMBER!

Join the Earth Science Museum's



IT'S TIME TO RENEW YOUR MEMBERSHIP!
Please renew today! 😊😊😊

----- cut here -----
**ESM Earth Science Investigation
 Team Membership Form**
 _____ **New Member** _____ **Renewal**

Membership levels:

_____ **ESI Family \$20**
 _____ **ESI Individual \$10**

- Membership benefits:
- ◆ Monthly e-newsletter *Earthquake*
 - ◆ Official team membership card
 - ◆ Knowledge that your contribution is making a difference in earth science education.

MANY THANKS TO OUR MAJOR DONORS!

- AZ Leaverite Rock & Gem Society
- Flagg Mineral Foundation
www.flaggmineralfoundation.org
- Friends of the AZ Mining & Mineral Museum
- Maricopa Lapidary Society
<http://maricopalapidarysociety.com/>
- Mineralogical Society of AZ
www.msaaaz.org
- Payson Rimstones Rock Club
- Sossaman Middle School
- White Mountain Gem & Mineral Club
www.whitemountain-azrockclub.org
- Wickenburg Gem & Mineral Society
<http://www.wickenburggms.org>
www.facebook.com/pages/Wickenburg-Gem-and-Mineral-Society/111216602326438
- Staples Foundation
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Mission

Our Mission is to excite and inspire all generations about earth sciences through educational outreach.

Vision

We envision a community where students and the general public have curiosity about, passion for, and understanding of the underlying principles of earth sciences.

For more information about the ESM, how to become a member or how to arrange for a school visit or Community function, go to: www.earthsciencemuseum.org.

Please join us at the next ESM Board meeting Tuesday, May 9, 2017, at the Burton Barr Library in Phoenix at 6:30 p.m. Rm. B.

We're on the Web!

Visit us on  and at: www.earthsciencemuseum.org

THANK YOU FOR YOUR CONTINUING INTEREST & SUPPORT!!!

**EARTH SCIENCE MUSEUM
NON-PROFIT BOARD OF DIRECTORS**

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