

Bulletin of the Mineralogical Society of Southern California

Volume 90 Number 5 - May, 2017

The 944th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

May 12th, 2017 at 7:30 P.M.

**Pasadena City College
Geology Department, E-Building, Room 220
1570 E Colorado Blvd., Pasadena**

Program: The Formation of Meteorite Minerals; Presented by Alan Rubin

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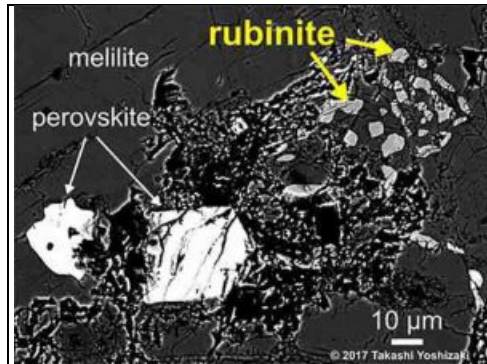
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Remember: If you change your email or street address, you must let the MSSC Editor and Membership Chair know or we cannot guarantee receipt of future Bulletins

About the Program: The Formation of Meteorite Minerals; Presented by Alan Rubin

Researchers have identified a new mineral in the oldest solar system solids from primitive meteorites. They've named it "rubinite" after Dr. Alan E. Rubin, a pioneering cosmochemist at University of California, Los Angeles.

Alan Rubin has a B.S. in Astronomy (University of Illinois, 1974), an M.S. in Geological Sciences (University of Illinois at Chicago, 1979) and a Ph.D. in Geology (University of New Mexico, 1982). He was a post-doc at the Smithsonian for a year (1982-1983) and has been at UCLA since 1983. He is currently a Research Geochemist and an Adjunct Professor in the Department of Earth, Planetary and Space Sciences. He has published about 190 research papers on meteorites in peer-reviewed journals and about 50 popular articles on meteorites, asteroids, astronomy and space science; seven of these won awards for popular science writing. His popular science book "Disturbing the Solar System" was published by Princeton University Press in 2004. In honor of his research contributions, asteroid 6227 was named Alanrubin in 2002.



Researchers have identified a new mineral in the oldest solar system solids from primitive meteorites. They've named it "rubinite" after Dr. Alan E. Rubin, a pioneering cosmochemist at University of California, Los Angeles. Rubinite was officially approved in March 2017 by the International Mineralogical Association. Credit: Tohoku University

From the Editor:

How fast time flies, it's already May! Somehow, it seems the older I get, the faster time flies. Remember when summer vacation was endless, at least in June?

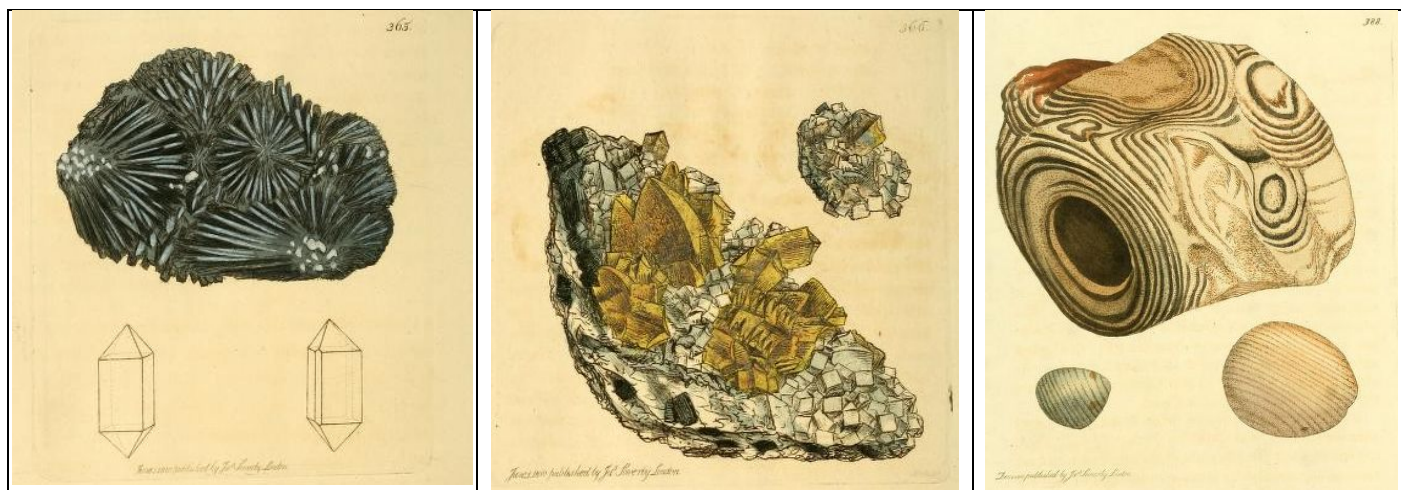
First off, thank you again Rudy for your contribution this month. I really enjoyed your article on your recent field trip. I would love to see similar articles from other members' field activity and I'm sure our members enjoy these vicarious field trips too. Come on people, I know there are more of you that get out to collect. Bring your camera and share! We'd all love to "come along". Linda Elsnau

MEANDERINGS FROM THE PRESIDENT by Ann Meister

For those of you who have not visited the MSSC website recently, you are in for a treat! Our webmaster Leslie Ogg has worked up a total redesign, bringing the site into the 21st Century. The new home page shows a fantastic panorama overlooking the old mining town of Darwin, a long-time favorite collecting locality. (My first MSSC field trip in 195x was to Searles Lake on Saturday and Darwin on Sunday.) Leslie can create the design and some content, but as with the *Bulletin*, the content that adds value comes from YOU, MSSC members. I'd love to see the History section expanded with more pictures and anecdotes about past activities (or future activities if that's possible) including meetings, field trips and shows. I'd also like to expand the Education section to make it useful to home schoolers and other kids who are interested in mineralogy and geology. Our original website was designed by Bill Besse sometime back in the Pre-Cambrian or Early Internet Era and served us well for many years. THANKS to both Leslie and Bill for their hard work.

I am writing this on April 22, which is both the due date for *Bulletin* submissions and **EARTH DAY 2017**. Out of curiosity and wondering what the EARTH SCIENCES of geology and mineralogy might be doing in honor of our home planet Earth, I searched **Google**. A search of "mineralogy + Earth Day" had several "real" hits. The Hennepin County Library (MN) had a tumblr page (from two years ago) highlighting their Spencer Natural History Collection. They included illustrations from James Sowerby's *British mineralogy.org, Colored figures*

intended to elucidate the mineralogy of Great Britain (1804-17) – with hand-colored copper-plate engravings of minerals showing plate 365 Antimonium sulphureum (stibnite), plate 366 Ferrum sulphureum (identified as pyrite by Sowerby, but it sure looks like marcasite, both being iron sulfide), and plate 388 Silex quartzum, or striped flints.



In Pinterest, there was a Greek page titled Gemstones: Natural Treasures to Celebrate Earth Day. It had pictures of primarily gems with copies of charts from the GIA (in English) and some with metaphysical stuff. The Stephen Hui Geological Museum (in the James Lee Science Building of the University of Hong Kong, China) had a banner celebrating Earth Day and a special weekend opening of their special exhibition “Mineral Collections in Hong Kong.”

There were a few more references for “geology + Earth Day.” These included among the pictures a geology joke from a Pinterest page titled “Explore School Science Jokes, Math Science Humor, and more! OK, are you ready for this?... What should you eat for breakfast on Earth Day? Pangeacakes (which are misshapen pancakes that look like the supercontinent Pangea just starting to separate. Thank you, Grant Snider).

The results of my Google searches make me wonder if mineralogists, geologists and related scientists believe that they have little to contribute to Earth Day or they are oblivious to Earth Day or ??? Is there something that MSSC can and should do for Earth Day next year?

Geology in the News: In a case of “river piracy,” a retreating glacier in the Yukon has caused a river to disappear! The Kaskawulsh Glacier in northern Canada has retreated sufficiently over the past century to trigger a geologic event – the toe of ice that was sending meltwater toward the Slims River and then north to the Bering Sea retreated so far that the water changed course, joining the Kaskawulsh River and flowing south toward the Gulf of Alaska. I remember reading about stream capture in my geology texts in college, but the examples were historical events. <https://phys.org/news/2017-04-retreating-yukon-glacier-river.html>

OTHER THINGS TO DO...

The **Von Kármán Lecture** on April 4 and 5 is titled “Going out in a Blaze of Glory: Cassini Science Highlights and Grand Finale.” The speakers are Dr. Linda Spilker and Dr. Earl H. Maize. Thursday is at the Von Kármán Auditorium at JPL and Friday is at the Vosloh Forum at PCC. Start time is 7 PM.

The last **Watson Lecture** of the school year is on May 10 at Caltech’s Beckman Auditorium. Title: “What Columbus Discovered,” by Nicolas Wey-Gomez. The lecture starts at 8 PM.

The **UCLA Meteorite Gallery** lecture is on Sunday, May 14 at 2:30 PM. The speaker is UCLA Professor Kevin McKeegan. His topic is “The Great American Eclipse of 2017.” On Monday, August 21, 2017, a total eclipse of the Sun will be visible in the continental United States for the first time in almost 40 years. The Meteorite Gallery in Geology room 3697 is open with a docent present every Sunday from 1 till 4. The lecture is in room 3656 near the Meteorite Gallery. (New location) In addition, Professor John Wasson will be speaking

on the Treysa meteorite that fell in Germany on April 3, 1916. "It Fell From the Sky!" will be Tuesday, May 9 at 6 PM at the Fowler Auditorium on the UCLA campus. Reserve a seat at meteorites.eventbrite.com.

MINUTES of the April 14, 2017 Meeting

On Friday, April 14, 2017, the Membership meeting of the Mineralogical Society of Southern California (MSSC) was called to order at 7:30 p.m. by President Ann Meister who welcomed all to the 943rd Membership Meeting. Ann asked any guests to introduce themselves. Jim (a Physical Science middle school teacher) and Cindy Gass from San Bernardino are members of the Orange Belt Mineralogical Society came out with Catherine Govaller, Bob Thomas was a member 17 years ago and Matthew Bell is a member of Pasadena Lapidary. Welcome to all and kindly stay for refreshments after the meeting.

A **motion** was made by Laura Davis, seconded by Fred Elsnau to accept the March 2017 Membership Meeting Minutes as published in the April 2017 MSSC *Bulletin*. Ann called for any corrections or additions and seeing none, made a call for the vote. **The motion passed by unanimous vote.**

Regular Business

- Deadline to submit items for the *Bulletin* is the 22nd of each month;
- *Bulletin* Editor Elsnau will "gleefully" accept any/all offerings;
- Dues were due in January, see Cheryl Lopez, Membership Chair, to pay or join;
- Next BOARD meeting will be June 4th at Carter residence;
- MSSC's Annual Picnic will be August 6th, watch Bulletin for more info;
- Thanks to Rudy Lopez and his crew for their participation at the 3rd Annual Urban Festival held at LA County's Natural History Museum.

Announcements

- Wilson Lecture Series at Cal Tech features 2 more lectures: 4/19/17 "How Clean is the Cloud" by Adam Wierman and 5/21/17 "What Columbus Discovered" by Nicholas Wey-Gomes. Lectures start at 8:00p.m. in the Beckman Auditorium;
- UCLA's Meteorite Gallery: "The Osiris Rex Sample-Return Mission to the Asteroid Bennu, A Probable Source of Carbonaceous Chondrites" will be presented by Dr. Steven Chesley on 4/23/17 at 2:30pm (Geology 3656). [Note: On May 9, 2017 "It Fell From The Sky" will be presented at 6:00p.m. in the Fowler Auditorium, check website meteorites.ucla.edu for more information];
- The vonKármán Lecture Series for May (4th at JPL and 5th at PCC's Vosloh Forum) is entitled "Going out in a Blaze of Glory: Cassini Science Highlights and Grand Finale". The lecture begins at 7:00pm, is free, reservations are not needed, though space is limited.

Other Announcements or Show and Tell

- Ann asked Dr. George Rossman, MSSC Vice President, for a report about this year's Sinkankas Symposium, at which Dr. Rossman was a speaker. It was held April 8, 2017 in Carlsbad, CA, to a sold-out group! This year, says George, the focus was Sapphire. He reports that the symposium was very interesting as there were people from the UK, Thailand, the U.S. and other parts of the world. Participants included GIA educators, ambassadors, and lecturers all focused on sapphire properties, color, etc. And, George

reports, there are now 5,360 known minerals, all accredited, naturally occurring and most of the new ones are microscopic. Linda Elsnau stated that George's presentation is usually at the end of the symposium and runs short on time. Dr. Rossman said he will give his presentation later in the year to MSSC. [Secy: Keep an eye out in the *Bulletin* for further details - this is one you won't want to miss!]

- Fred Elsnau said he has a "little box of stuff" to set out in the break room after the meeting. Ann adds that if Fred has a little box of stuff, it's worth seeing!

Programs Chair

- Rudy Lopez reports that the Urban Festival at the Museum of Natural History of Los Angeles County was successful. He, Leslie, Angie and Cheryl passed out 900 specimen bags of rocks/minerals to children in attendance. Our friendly competition again was the La Brea Tar Pits. The Museum has asked us back for the festival next year. [Secy.: Check the April 2017 *Bulletin* for Rudy's full report.]
- Coming up is the Science in the Park event on April 29, 2017. If you can help out let Rudy know. It will be held at Irvine Park in Orange County from 9-4.
- Rudy gave us a treat showing a televised "Stories from the Road", season 2, episode 3, featuring Rock Currier and his VW story. Thanks, Rudy. Sweet and thoughtful remembrance of a great guy.

Program: Identifying Petrified Wood by Walton (Walt) Wright is tonight's program. Walt is a Paleobotanist who has extensive education, experience and an addiction to petrified wood and plants and of geology. He has the largest petrified wood collection in the world. He views fossil plants from the perspective of living plants but with a geologic slant including plate tectonics, survival, extinction and (geological) time. Walt has traveled and shared his knowledge with countless people across the great expanse.

Replacement and permineralization are two terms Walt wants to destroy. These terms are commonly used when speaking of petrification. Walt begins to explain...

How old is something? The tourmaline in New Jersey is over 300 million years old (myo) but the tourmaline in Southern California is 90 myo. Why is that not mentioned when a specimen of tourmaline is in an exhibit case? It would be much more interesting if you knew the formation and its age.

As an aside but of interest, Walt tells us about an auction to be held April 29th at the Heritage Auction in Dallas. He and a colleague identified and dated several pieces to be auctioned. There will also be a catalogue listing each piece. Check Heritage's website to see some spectacular pieces with great descriptions by Walt and his friend.

"Permineralization" is putting minerals into some structure that is (still) there.

From the Devonian, about 420 million years ago, a towering mushroom was found in Saudi Arabia, New Brunswick, in the Bear Mountains (WY.) and at other global locations. These fungi were 26 meters (78') tall and 1 meter (3') in diameter. Now fossils, *Prototaxites* can still



Walt this his Photo by Angie Guzman

be identified! The main structure is cellulous, containing glucose units, strung out. When hydrolyzed, the cellulous breaks down to a disaccharide, 2 sugar units called cellobiose. Additional watering breaks it down further. Walt went on to explain bonding of covalent ions, molecular behaviors and he gave us a peek at carbon compounds.

“Replacement”? It's something substituted for something else. In petrified wood, it becomes a fossil, it's mineral. There is no structure of wood left in the piece, it was *not replaced*. Because we can't exchange ion for ion and atom for atom, replacement is totally ridiculous, according to Walt.

“Petrification” is mineralizing something. An excellent example is wood which are fossils. Petrified means turned to stone. [*Note: Walt brought in many excellent specimen to see and some that he passed around.*] Basically, there is an absence of oxygen and organics in sediment where plant material is buried. In the ground, the rich soil flows through the sediment replacing original material with minerals such as silica, calcite, pyrite or another inorganic material (like opal).

By contrast, the Mount St. Helens volcanic event May 18, 1980 blew down countless trees. Many of those trees ended up in Spirit Lake thanks to the lahars (volcanic mud flows). They are not petrified because of the oxygen in the lake. They just float there undisturbed.

Walt told about the 3-day old dead opossum. It stinks! No cellulose in the opossum. But, plants, on the other hand have cellulose. The cellulose molecules will break down, decompose. Put plants in acid, ionize it and it gets carried away in ground water. On the other hand, dinosaur bones are apatite. To mineralize the dinosaur bone, you need alkaline water.

Petrified woods are not usually found in the same beds as dinosaurs because petrified wood is found in an acid environment. However, there are exceptions. For example, each are found in different parts of the Chinle Formation (219-210 myo) [*Secy. Note: Nevada, Utah, northern Arizona, western Colorado and western New Mexico*] And, in the upper Morrison Formation [*Secy Note: mostly Wyoming and Colorado with outcrops in No. and So. Dakota, Kansas, Montana, Nebraska, Oklahoma, Texas, Arizona, New Mexico, Utah and Idaho*] and lower in the wetlands portion of the Morrison, there is also wood and bone! The mineral is silica, in very small concentration of 0.2% or less.

Walt went on to talk about 13.8mya wood in eastern Oregon, templating (forget about it!), pseudomorph-after-wood, caste Vs. mold, rhyolitic volcano intrusive granite (weathers rapidly) Vs. basalt (weathers slowly).

The talk tonight was about silica, but Walt says there are 35-50 minerals that can mineralize wood. Some of them are turquoise, chromium, pyrite, fluorite and others. The effect is stunning.

Walt Wright an author, "Secrets of Petrified Plants", lecturer and great presenter. Thanks for bringing the wonderful and colorful specimens and for an interesting presentation. Come back anytime!

Prize

Won by Pat Caplette who offered it to guest Jim Gass.

Adjourn

The meeting was adjourned at 9:30p.m. Refreshments and lively discussions followed

Respectfully submitted, Angie Guzman, Secretary, Apologies in advance for any omissions or misspellings.

*[Secretary's Note: While we try to give you a good representation of the speeches, it's impossible to provide the whole picture. So, come to the next meeting to get full benefit and hear these amazing presentations for yourself. **Our next meeting will be Friday, May 12, 2017 at 7:30 p.m. at the PCC Geology Building.** Contact one of the officers or members if you need a ride.]*

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	June, 2017	Mohamed Elghetari - Mars
	July, 2017	Webers, Mary Pat & Dick - Canadian Amethyst
	September, 2017	Dr. George Rossman - Quartz crystals
	October, 2017	Leslie Neff & Larry Hoskinson - Opals Part 2
Annual MSSC Picnic	August 6, 2017	Theme to be announced
Board Meeting	June 4, 2017	Board Meeting at Bruce Carter's house

Note: Dates and programs shown above are subject to change. Check your bulletins to confirm final information each month.

The New MSSC Website; by Leslie Ogg, MSSC Webmaster



[Home](#) [Meetings](#) [Membership](#) [Bulletins](#) [Officers](#) [History](#) [Education](#)
[Pacific Micromount Conference](#) [Links](#)



Please take a look at our new, refreshed web site. The address is still the same, mineralsocal.org but it has a more modern look and is now easier to view on mobile devices. Most of the previous content is still there. You can:

- check the date and topic of the next meeting.
- download a membership form for printing.
- view bulletins all the way back to 1999.
- take a survey about the society.
- get information about the Pacific Micromount Conference.
- find links to other mineralogical resources.

I have information and images about a few field collecting locations, and images from past shows. If this material is of interest to members, I can add pages. Lastly, if there is content that you want to see on the web site, please let me know. The site is fairly easy to update, and expand as needed. You can contact me at webmaster@mineralsocal.org.

A Trip Down Route 66, To Oro Grande Gus' Quarry; By: Rudy Lopez

On Saturday, April 22, 2017, Angie Guzman, Cheryl & Rudy Lopez took a trip to Ore Grande for some Rockhounding.

Rudy found an area inside a Concrete Plant about 9 years ago, that was BLM, when a friend was doing some work on the towers above the Concrete Plant.

Cheryl and I had made a few trips to the location which I named Gus' Quarry. We found Barite, Pyrite, Dendrites, and a few other minerals which we couldn't identify.

On Saturday, April 22nd, the three of us took off for some hopefully decent rock hunting. We had a great time, and found our limit of rocks. We only spent about 3 hours at the location as the temperature was about 95 degrees.!



These pictures are of the plant we drove through to get to our location. I made a wrong turn and was actually in the working plant, but no one saw me.



This is the collection site of Gus' Quarry, the mountain has been blasted apart and they crush the rock for their use. We are allowed to enter this area, since it's BLM. The only time we can't enter is when they are blasting. Roads are closed and signs are posted on blasting days.





The images below are of our collecting, I had my prize for the day, a 27lb piece of barite, upper left picture. Cheryl and Angie still looking for their special find.



Here are some pictures of some of the treasures of the day.





We had to clean up and sort our rocks when we got home. We also bagged over 100 pieces to give to the kids at our next event.



A Few of the special finds



We had a great time on our trip and wanted to share some of it with everyone. We are going to bring a few of our treasures for show and tell

Bye from Rudy & Cheryl Lopez & Angie Guzman from Gus' Quarry

Ride Share Listing

Can You Provide A Ride?

Would You Like Company On The Drive To Meetings?

We have heard from several of our members that they would like to ride-share with someone to the meetings. We will list the names, general location and either a phone number or an email address of anyone who would like to connect for a ride-share. If you would like to catch a ride or would like company for the trip, let me know at msscbulletin@earthlink.net and I'll put the information in this section of the bulletin. After that, any final arrangements made are up to you. Also, If you make a connection that works for you, let me know so that I can remove your information from the bulletin. The Editor

Looking for	Who	Where	Contact at
A ride	Richard Stamberg	North Orange County, near Cal State Fullerton	
A ride	Catherine Govaller	San Bernardino, CA	

WEST COAST GEM & MINERAL SHOW

MAY 19 - 21, 2017

Minerals ♦ Fossils

Gemstones ♦ Jewelry

Meteorites ♦ Beads

Decorator Items

Lapidary

Metaphysical



*Grape Agate
Sulawesi, Indonesia
Photo by Jeff ScottFD*

♦ *FREE Admission*

♦ *FREE Parking*

Open to the Public

*Wholesale section
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	Business Card	\$5.00	
	1/3 page	\$10.00	
	1/2 page	\$20.00	
	Full Page	\$35.00	
In addition, any advertiser who purchases 12 months of space in advance will receive a discount of 12 months for the price of 10 months. The copy for the ads should be mailed to the editor at bulletin@mineralsocal.org and the payment should be sent to the MSSC Treasurer 1855 Idlewood Road, Glendale, CA 91202			

Calendar of Events:

Only local area shows are listed here. Other CFMS Club shows can be found at: <http://www.cfmsinc.org/>

MAY

May 5 - 7: YUCAIPA, CA

Yucaipa Valley Gem & Mineral Society
Yucaipa Music & Arts Festival
Yucaipa Blvd and Adams Street
Hours: Fri 6 - 9; Sat 12 - 10, Sun 12 - 6
Website: www.yvgms.org [Show Page](#)

May 6 - 7: ANAHEIM, CA

Searchers Gem & Mineral Society
Brookhurst Community Center
2271 W. Crescent Avenue
Hours: Sat 10 - 5; Sun 10 - 4:30
Website: www.searchersrocks.org

JUNE

June 2 - 4: LA HABRA, CA

North Orange County Gem & Mineral Society
La Habra Community Center
101 W. La Habra Blvd.
Hours: Fri 5 - 8; Sat & Sun 10 - 5
Website: www.nocgms.com

June 3 - 4: ESCONDIDO, CA

Palomar Gem & Mineral Club
California Center for the Arts
340 N. Escondido Blvd.
Hours: Sat 10 - 5; Sun 10 - 4
Website: www.palomargem.org [Show Page](#)

June 3 - 4, 2017: GLENDORA, CA

Glendora Gems
Goddard Middle School
859 E. Sierra Madre Avenue
Hours: Sat 10 - 5; Sun 10 - 4

June 9, 10 & 11, 2017: VENTURA, CA 2017 CFMS-AFMS Show & Convention

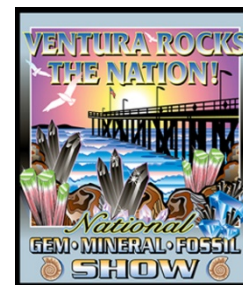
Ventura Rocks The Nation!

Hosted by Ventura County Gem & Mineral Society
Ventura County Fairgrounds
10 West Harbor Boulevard
Hours: Fri & Sat 10 - 5;
Sun 10 - 4

Website: 2017CFMS-AFMSShow.com

JULY

July 8 - 9: CULVER CITY, CA
Culver City Rock & Mineral Club
Veterans Memorial Auditorium
4117 Overland Blvd
Hours: Sat 10 - 6; Sun 10 - 5
Website: www.culvercityrocks.org



Random Quick Quote:

“A mineral may be defined as any naturally occurring chemical element or compound formed as a product of inorganic processes. This eliminates all artificial products of the laboratory as well as all natural products formed by organic agencies. The above definition is brief; and though it embraces most of the substances considered as minerals in this book, it should be considerably expanded to be all-inclusive.

Minerals are the materials of which most of the rocks of the earth’s crust consist and are, therefore, among the common objects of daily observation.”

Dana’s Manual of Mineralogy (Fifteenth Edition) page vii

2017 MSSC Officers:

OFFICERS		
President	Ann Meister	president@mineralsocal.org
Vice President	George Rossman	vicepresident@mineralsocal.org
Secretary	Angie Guzman	secretary@mineralsocal.org
Treasurer	Jim Kusely	treasurer@mineralsocal.org
CFMS Director	Jo Anna Ritchey	
Past President	Geoffrey Caplette	
DIRECTORS		
2016--2018	Bruce Carter	
2016--2018	Bob Housley	
2016--2018	Leslie Ogg	
2016-2017	Pat Caplette	
2016-2017	Pat Stevens	
COMMITTEE CHAIRS		
Bulletin Editor	Linda Elsnau	bulletin@mineralsocal.org
Hospitality	Laura Davis	
Membership	Cheryl Lopez	membership@mineralsocal.org
Micro Mount Conf. Chairman	Al Wilkins	
Program and Education	Rudy Lopez	programs@mineralsocal.org
Publicity	Linda Elsnau	bulletin@mineralsocal.org
Webmaster	Leslie Ogg	webmaster@mineralsocal.org

About the Mineralogical Society of Southern California

Organized in 1931, the Mineralogical Society of Southern California, Inc. is the oldest mineralogical society in the western United States. The MSSC is a member of the California Federation of Mineralogical Societies, and is dedicated to the dissemination of general knowledge of the mineralogical and related earth sciences through the study of mineral specimens. The MSSC is a scientific non-profit organization that actively supports the geology department at Pasadena City College, Pasadena, California. Support is also given to the Los Angeles and San Bernardino County Museums of Natural History. The Bulletin of the Mineralogical Society of Southern California is the official publication of the Mineralogical Society of Southern California, Inc.

The MSSC meetings are usually held the second Friday of each month, January, February and August excepted, at 7:30 p.m. in Building E, Room 220, Pasadena City College, 1570 E Colorado Boulevard, Pasadena, California. The annual Installation Banquet is held in January, and the annual Picnic and Swap Meeting is held in August. Due to PCC holidays, meetings may vary. Check the Society website for details.

The Society also sponsors the annual Pacific Micro mount Symposium held at the San Bernardino County Natural History Museum during the last weekend of January.

Annual Membership dues for the MSSC are \$20.00 for an individual membership, \$30.00 for a family membership. Bulletins are delivered by email, there is an additional annual \$20.00 fee if you prefer paper bulletins mailed to your address. The Society's contact information:

Mineralogical Society of Southern California

1855 Idlewood Rd.,

Glendale, CA 91202-1053

E-mail: treasurer@mineralsocal.org

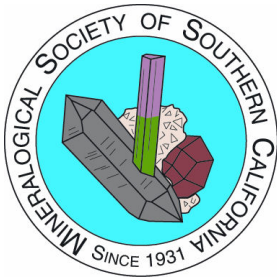
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MSSC Bulletin Editor
3630 Encinal Ave.
Glendale, CA 91214-2415

To:



**With Knowledge Comes
Appreciation**

***Your MSSC
Bulletin Is
Here!***