



Bulletin of the Mineralogical Society of Southern California

Volume 92 Number 1 - January, 2019

The 964th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

MSSC Annual Banquet --- January 12th, 2019

Social Hour 5:30 pm: Dinner 6:30 pm: Program 7:30 pm

Oak Tree Room (next to Coco's)

1150 West Colorado Boulevard

Arcadia, CA 91007

Program : "The Treasures of Poland: Amber and Salt" presented by Denise Nelson

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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

Dues are Due....Send them Today so you don't forget!

MSSC ANNUAL BANQUET & SILENT AUCTION

Saturday, January 12, 2019

The cost of the Banquet is \$40.00.per person

AS OF 12/23/18, I only have 10 reservations for our Annual Banquet.

I must turn in a head count to COCO'S

By: Wednesday, January 9th, 2019.

If you are going to attend, please contact Rudy Lopez. If you don't contact Rudy you're not on the list. Rudy needs the head count no one else!

Call or email Rudy Lopez to make your reservation today!

626 993-7989 or programs@mineralsocal.org

Mail Checks to:

MSSC

1301 Leonard Ave

Pasadena Ca 91107

If you haven't done so already, plan to pay your dues at the same time.

Dues are officially due 1/1/2018.

About the Program: "The Treasures of Poland: Amber and Salt"

presented by Denise Nelson, GIA GG

Everything you ever wanted to know about Amber! History and present knowledge are combined in this fascinating travel log featuring the natural treasures of Poland. A visit to the Danzig Amber Museum and to the amazing Walczak Salt Mine provide a view of materials often misunderstood but always treasured and desired!



Denise Nelson is a Graduate Gemologist (GIA), Appraiser, and occasional Gem hunter. She started her own business, Inner Circle, a Fine Jewelry and Appraisal provider, over 23 years ago in Maryland. Her travels to mines and trade-shows have taken her to many different Countries like Brazil, Thailand, Malaysia, Japan, China, Germany, France and Argentina.

This combination of gemology and genealogy is a perfect topic for Denise Nelson, who has taught genealogy and spent many years researching and studying the history of gems and jewelry. An appraiser, consultant and owner of INNER CIRCLE Fine Jewelry and Appraisal Services, Nelson has revealed many interesting facts to her

clients in her 30 years in the jewelry business. She's traveled to 38 countries to research historical jewelry, visit mining areas and buy gemstones, pearls and jewelry for her customers. Nelson also designs jewelry and is a wholesaler to a number of jewelry stores. She is a member of the National Association of Jewelry Appraisers (NAJA).



With Knowledge Comes Appreciation

From the Editor:

Wow! Happy New Year to one and all! I'm starting my 7th year as your Bulletin Editor. It's a task that I generally enjoy and sometimes find to be quite a challenge. As always, I am asking the members to lend a hand by sending in any pictures you think the rest of the membership would enjoy, from your personal field trips, or your favorite minerals. How about contributing an article? We'd all love to hear why your favorite mineral is your favorite, or how you discovered the mineral hobby in the first place. What interesting museum collections have you visited in your travels? If you want my help in writing an article, just contact me. I'm glad to help.

Linda Elsnau

From the President: Interesting Minerals, A to Z. Installment 13, the letter "M": by George Rossman Melanothallite

Melanophlogite is a cubic polymorph of silica. But is it not quite purely SiO₂. We will get to that later. First, we need to review the common polymorphs of silica starting with quartz. Quartz is nearly pure SiO₂. Often, it may have a trace of aluminum substituting for silicon. If it has a trace of iron substituting for silicon it may turn out to be the amethyst variety. We all know what quartz is (Figure 1).

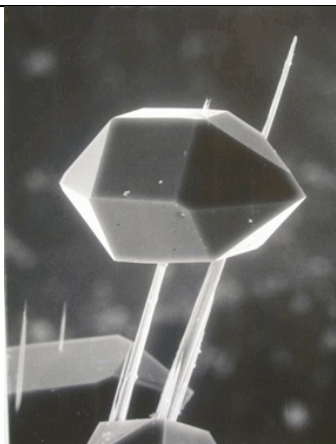


Figure 1. A doubly terminated quartz crystal impaled on a goethite needle in a geode from Chihuahua, Mexico.

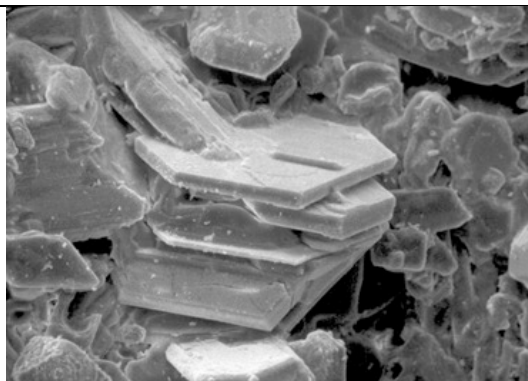


Figure 2. SEM image (620x) of Hexagonal plates of tridymite from Lemolo Lake, Douglas County, Oregon

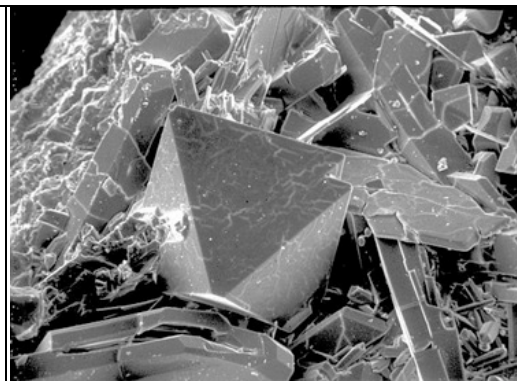


Figure 3. SEM photograph (125x) of an octahedral crystal of cristobalite from Mayen Germany

All Photos provided by G. Rossman

If silica forms at higher temperatures, it can adopt different crystal structures and shapes as are found in the polymorph tridymite that typically forms above 1000°C (Figure 2). At temperatures greater than 1400°C it forms cristobalite (Figure 3).

Melanophlogite was first published and named by von Lasaulx in 1876. The name comes, in part, from the fact that when heated, Italian melanophlogite turns black. This is due to the fact that this melanophlogite commonly contains from 6 to 12 wt percent of foreign organic matter, sulphur and water within its structure. When heated, the organic material decomposes into black carbon. The sulphur mines in which they occur are stated to be dripping with bitumen (Friedel, 1890). It is found in other localities in Italy that are related to low-temperature hydrothermal processes that involve gaseous activity (Tribuadino et al, 2008).

Friedel G (1880) Sur la mélanophlogite. Bull Soc franc. Min 13, 356-372.

von Lasaulx A. (1876) Mineralogisch-kristallographische Notizen. VIII. Melanophlogit, ein neues Mineral. Neues Jahrb. Mineral. 1876, 250-257.

Tribaudino M, Artoni A, Mavris C, Bersani D, Lottici PP, Belletti D (2008) Single-crystal X-ray and Raman investigation on melanophlogite from Varano Marchesi (Parma, Italy). *American Mineralogist* 93, 88-94.

Although previously thought to be a pseudomorph of quartz after fluorite or cristobalite, it is now recognized to be a distinct phase. Melanophlogite is a low temperature cubic polymorph of silica with an ideal density of 1.99 grams/cc. That is much lower than the density of quartz which is 2.65 g/cc. The fact that melanophlogite grows on sulphur crystals indicates that the growth temperature was below the melting point of sulphur, about 115 °C.

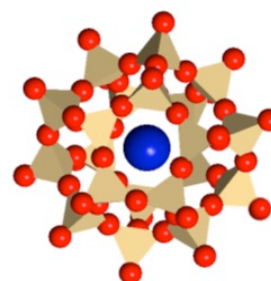


Figure 4. Small, amber colored crystals of melanophlogite sitting on a sulphur crystal in a calcite crystal matrix from the Racalmuto Mine, Sicily, Italy.



Figure 5. A close-up image of the melanophlogite crystals on Sulphur from the Racalmuto Mine.

Figure 6. The open volumes in melanophlogite



These are large enough to hold molecules of methane, carbon dioxide and water. One of the zeolite-like cages is illustrated where the silicon atoms are brown, oxygen ions are red, and the molecule in the cage is blue

Melanophlogite is viewed as a clathrate of silica. That means, it is chemically silica, but it has large open volumes in the structure that trap other molecules (Figure 6). The original study by Skinner and Appleman of the US Geological Survey found at least 6% by weight of carbon, hydrogen and sulphur present as organic matter in the crystals.

Skinner B J, Appleman D E (1963) Melanophlogite, a cubic polymorph of silica. *American Mineralogist* 48, 854-867

von Lasaulx A. (1876) Mineralogisch-kristallographische Notizen. VIII. Melanophlogit, ein neues Mineral. *Neues Jahrb. Mineral.* 1876, 250-257.

Gies H (1983) Studies on clathrasils. III. Crystal structure of melanophlogite, a natural clathrate compound of silica. *Zeitschrift für Kristallographie* 164, 247-2

So, what is the chemical formula of melanophlogite? The International Mineralogical Association (IMA) originally listed it as $C_2H_{17}O_5 \cdot 46SiO_2$ that was derived from the Italian material. But, melanophlogites found at other localities have different internal contents, so would have a different formula. The Mount Hamilton area, east of San Jose, is a California locality for melanophlogite (Figures 7,8). There, the fresh crystals contain molecular methane, carbon dioxide and nitrogen in the cages. So, we should consider the formula to be SiO_2 with the likelihood of additional foreign molecules contained in the



Figure 7. Small cubic crystals of melanophlogite from Mount Hamilton, California

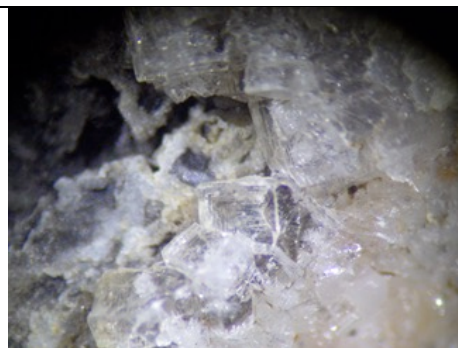


Figure 8. A close-up photo of the melanophlogite from Mount Hamilton, California

Melanophlogite has been found in a number of other localities around the world. Mineralogical Record magazine has an article describing one such locality on their on-line publication, Axis Online:

<https://mineralogicalrecord.com/pdfs/MELANOPHLOGITE%20ARTICLE.pdf>

What about other localities in Southern California? MSSC member Bob Housley has been exploring possible localities where melanophlogite used to exist but now has altered into something else. I asked him to provide a few words about this. Here is what he had to say:

“Specimens of cubic chalcedony have been known from the Santa Monica Mountains since at least as early as the 1930’s. Since the 1950’s the LACMNH has had a beautiful large cube from Encino on display. In the early 1990’s former MSSC Bulletin editor, Bill Radar, found an extensive new *in situ* occurrence of these cubes off of Lewis Road in Agoura, and he and his frequent collecting partner, former MSSC president, Fred DeVito, were the first to correctly identify them as pseudomorphs after melanophlogite. They gave specimens away at NCMA and PMC and I became fascinated with their discovery. I collected a suite of samples from Lewis Road in 1995. Bill subsequently gave samples from 2 other currently inaccessible locations.

When I accidentally stumbled on yet another location in 2007, I decided to try and recruit other local collectors in an effort to see if even more sites could be located. This worked well. Local agate expert Jason Badgely has shown me 6 new sites and Marek has found at least 3 new ones. I wrote up the 11 sites that I was then aware of in a Mindat article in 2013:

<https://www.mindat.org/article.php/1772/Eleven+New+Melanophlogite+Pseudomorph+Occurrences+in+Southern+California>.

Marek similarly published a nice write up on his new sites in 2014:

<https://www.mindat.org/article.php/2067/Three+new+melanophlogite+pseudomorph+localities+from+Santa+Monica+Mts%2C+So.Calif>.

These publications caught the attention of at least one major researcher studying silica polymorphs, Koichi Momma, a curator of the National Museum of Nature and Science in Tokyo Japan. During this past winter Marek and I led him on 2 all day collecting trips in the Santa Monica Mountains and while here he also visited George’s lab at Caltech.”

Thanks, Bob, for the update on local pseudomorphs after melanophlogite. How many of our members have them in their collection?

MINUTES OF THE DECEMBER 14, 2018 MEETING

The 963rd Membership Meeting of the Mineralogical Society of Southern California (MSSC) was called to order by President Dr. George Rossman, Ph.D. at 7:35 p.m. on Friday, December 14, 2018.

President’s Remarks

President Rossman stated there are 5,413 mineral species recognized by the IMA. A couple of them include two named after people from Southern California. The first is named after G. Robert Crowningshield, who was one of the main instigators of GIA. *Crowningshieldite*, an iron nickel sulfide found in a Type 2 diamond. It represents a new structural form, a polymorph, a high-pressure form, found inside super depth diamonds and is gem quality. [Secy note: Type 1 is natural, Type 2 is rare and Type 3 is synthetic diamonds.] The other mineral is *Asimowite*, an iron rich (Fe₂SiO₄) member of the olivine group. It was discovered in a meteorite! It is named for Pasadena resident and Cal Tech professor, Paul Asimow.

Regular Business: Membership Meeting Minutes

A **MOTION** was made by Bob Housley and seconded by Marek Chorazewicz to approve the Minutes of the Membership Meeting held November 9, 2018 as published in the December 2018 *Bulletin*. There were no additions or corrections and there was no discussion. The vote was called by and the motion to approve the minutes, as stated, passed unanimously by voice vote.

Reports

Current Activities: Aside from the upcoming Banquet, none.

Field Trip Report (Chorazewicz)

Marek gave a report on the recent field trip to Boron. There were about 10 people who came to collect. Also, there were members of the Fluorescent Mineral Society. The mine brought out specimens and, the quarry had magnetite and zeolites. There was red jasper lying about on the ground for anyone to pick up. Marek brought samples and specimens of calcite covered with chalcedony and some opal that displayed green or orange fluorescence (under black light).

Coming up in January 2019 is a field trip to Lead Mountain where collectors can expect a lot of lead, barite, manganese, ulexite and other goodies. The trip may be on January 6 but that is subject to change. Watch the *Bulletin* and/or MSSC's website for more information.

Marek did a show and tell on the items he brought in from the Boron field trip and of the mineral he bought during his JTI experience: Lazulite, the featured mineral in the December 2018 MSSC *Bulletin*. The crystal is 1cm. It's a beauty! Nice score, Marek.

Announcements

-Next meeting will be the Banquet on January 12, 2019. Our annual fundraiser, the Silent Auction, will feature items you bring! The event will be in the Oak Tree Room next to Coco's in Arcadia on Colorado Blvd (at Michillinda). Social hour starts at 5:30 p.m. followed by dinner at 6:30 p.m., then our featured speaker, Denise Nelson, *Treasures of Poland, Amber and Salt* starts at 7:30pm. Cost is \$40 per person. See you there! The Membership Chair, Cheryl Lopez, will take your check if you want to pay now.

- Dues are due January 1, 2019.

-Copies of the current *Bulletin* and PMC registration forms are up front for anyone who wants them.

Show & Tell

Bob Housley brought halite nodules from the Boron field trip. He also brought calcite accretions and other things which are all for give away in the break room following tonight's meeting.

New Members and Visitors: None.

Program

Cheryl Lopez introduced Walton Wright, the foremost authority on identification of petrified wood in the United States. Walt is currently working in Utah describing new species of seed fern from Queensland, Australia. His undergrad is from U C Fullerton and his grad work from UC Riverside. He has worked as a botanist in New Mexico and for the Angeles National Forest. He's taught at UC Riverside and at Santa Monica City College. Walt has done consulting work for many years and presents/speaks in the States as well in Canada, New Zealand and China. He comes back to us to pick up where he left off in the Part 1 presentation a few months ago. Walt presents "Continental Drift/Plate Tectonics, Part 2".

Wright starts by telling us that the current name for moving continental plates around is Plate Tectonics, but it is still ok to speak of Continental Drift. These massive land movements have had a tremendous impact on the distribution of animals and plants!

In 1928, Alfred Wegener published his "The Origin of Continents and Oceans". His theory and research, detailed in his book, brought us the term "Continental Drift". He explains the breaking off of land masses from Pangaea, the single original land form and, how those movements created continents including their orogenic

systems . [Secy note: *Orogenic systems, aka mountain building, occur either by subduction of one continent over another or when two continents collide.*]

Wegener saw that the plant *glossopteris*, for example, was in South America, Africa, Australia and Antarctica, all through the southern continents. The wonder was how could this be? It must mean the southern continents were all together at one time. And, there was a time when it was believed that mountain building was a single global event, later disproved, of course.

Walt directs us to the diagram he put up on the board. Starting at about 500 million years ago (mya) in the last of the Cambrian Period, there were a lot of isolated continents. By 420mya, North America and Europe started to run into each other, making contact and creating orogenic events – mountain building that included the Appalachian and Alleghenies events. In the European area of Scandinavia, the Caledonian orogeny is happening. By 320mya, North America/Europe continent starts moving into the South America/Africa continent and by 240mya, those land masses are south of the equator. By 210mya Mexico is on the equator and Arizona (Petrified Forest) is 10° north of the equator.

Over geologic time, a number of different plant species of *glossopteris* are found in many places such as in the northern hemisphere of Laurasia and super continent Gondwana (Gondwanaland) in the southern hemisphere. Glaciers forming in the north causes sea level to drop 320' lower; then, in the swamps, high sea levels flood the Mississippian Valley. Volcanic activity throughout these times distribute volcanic ash in the air and, on the ground, floods help carry it to settle in various places. 200mya coal from “inland” areas of Pennsylvania, Indiana, Illinois and others are the same coal swamps and plants that appear in France. And, at 175mya, around mid-Jurassic, North America is splitting from Europe as the South Atlantic opens up. Walt continues, from 270mya-40mya the Laramide/Rocky Mountains started to rise up and even today, the Sierra Nevada is still growing, as evidenced by the lift caused by a major earthquake in the Owens Valley at Lone Pine in 1872.

As for vegetation, *araucaria*, evergreen trees with leathery leaves now mostly found in the southern hemisphere, is still in parts of North America today. When North America was close to the equator and then slowly moving north off of the equator, the *araucaria* had a slow distribution. However, *araucaria* were scattered throughout Gondwana including what is now South America's Chile, Argentina and Brazil. It is found in New Caledonia, Australia and Norfolk Island, as well.



Petrified Wood slice

Photo by Angie Guzman

Woodworthia Arizonica is the petrified wood found within the Chinle Formation. Recall that Arizona was 10° north of the equator, it was tropical. These petrified woods are *araucarias*! Walt shows us petrified wood specimens he brought in from Utah, Madagascar, Argentina, Arizona and Zimbabwe. Differences in ages of his samples are about 1 million years or so. Some fossil woods contain 1% chromium in the silica giving it a green color, which makes it highly valuable.

How long does it take for wood to become petrified, turn to stone? Let's look: when the plant material of a tree becomes buried by sediment it is protected from decay by oxygen and organisms. Groundwater rich in dissolved solids (i.e., volcanic ash) seeps in and replaces original plant material with minerals such as calcium, silica, manganese and even inorganic materials including opal. Walt tells us that volcanic ash is needed to mineralize the wood, otherwise the wood decomposes, and the “sugars” are gone! The process takes years, millions of years. By comparison, rhyolite takes about 2 years to become clay!

Petrified wood is fossilized wood that has turned into stone, that is, all the organics of the tree or plant have been replaced by minerals, and the term is permineralization. In Oregon near Crater Lake, there are agatized wood beds meaning that the wood has been replaced by agate, a form of chalcedony. In Texas, rainbow wood beds, having been replaced by quartz crystals that are contaminated, shown as colorful red, yellow and purple. In the Chinle Formation (Arizona), Black Forest wood beds are black with the exception of that 1% chromium factor showing as green. Black Forest petrified woods are *araucaria*! There are Picture Wood beds, too.

Walt continues by telling us about ancient seeds he has acquired and is in the process of identifying. He brought in two flats of the seeds which come from South America and South Africa...all going back to when the South Atlantic opened up about 170mya. Walt sums it up this way: when continents were together, plants and animals were all over. When continents are apart, plants and animals are divided.

Thanks to Walt Wright for a great presentation and for a good look at petrified wood slices that are stunning. Walt talked about ancient times and places, not all of which are recorded here but if you come next time, you can experience a great presentation for yourself.

Door Prize: Mary Stambaugh won the door prize. Congrats, Mary.

Adjourn: The meeting was adjourned at 8:50 p.m. [Secy note: 16 attended]

Secretary's Reminders:

- Submissions for the *Bulletin* are due to Editor Linda Elsnau by the 22nd of the month;
- Banquet and Silent Auction fundraiser is January 12, 2019 at Coco's starting at 5:30pm;
- Pacific Micromount Conference is scheduled for February 1, 2 & 3, 2019;
- Tucson show coming up soon!

In Memoriam

Mineralogical Society of Southern California extends sympathies and condolences to the families and friends of the Paradise Gem and Mineral Club and other Paradise, CA residents who lost their lives and homes during the recent devastating fires. Our thoughts are with you.

Respectfully submitted by Angela Guzman, MSSC *Secretary* (*Apologies for any omissions and/or misspellings.*)

MSSC BOARD MEETING MINUTES, DECEMBER 2, 2018

Roll call. The following officers and directors were present at the MSSC Board meeting held December 2, 2018 at the Carter residence: George Rossman (President), Jim Kusely (Treasurer), Angela Guzman (Secretary), Bruce Carter (Director), Pat Caplette (Director), Leslie Ogg (Director and Webmaster), JoAnna Ritchey (CFMS Director), Al Wilkins (PMC) and Rudy Lopez (Programs). The following members were excused: Ann Meister (Past President and Historian), Renee Krause (Vice President), Bob Housley (Director), Cheryl Lopez (Membership) and Linda Elsnau (*Bulletin* Editor). The meeting was called to order at 1:12 p m by President George Rossman.

- 1) **Comments from the President (Rossman):** None.
- 2) **Treasurer's Report (Kusely):**
 - a) Bank accounts: Kusely reports that there are transition issues with Bank of America, however our funds are still with Merrill Lynch until the problems are resolved. The Oppenheimer funds were sold due to steady declines. Jim prepared a handout showing our financial status;
 - b) Discussion regarding speaker fees Vs. Income;
 - c) Discussion regarding increasing membership dues, **possible action for 2019;**
 - d) Jim mentioned Paradise Valley Club lost 88 members in the fire and there are still 49 people missing. A notice of sympathies and condolences is requested to be in placed our next *Bulletin*;
 - e) Fraud billing attempts? Yes, they occur every 6 weeks to 2 months. There is no loss from these attempts. Whoever it is just keeps trying.
- 3) **Membership Chair report (Rudy Lopez for Cheryl Lopez):** Rudy reports that 12 members have paid their 2019 Membership Dues, so far; at the end of 2018, MSSC membership is 82, including 7 new members. Rudy stated that our upcoming outreach event (Nature Fest) will premier his PowerPoint

presentation that highlights MSSC field trips. This is in addition to society brochures and acts as another outlet to publicize our society and possibly gain new members. Dr. Rossman commented that it is difficult to recruit college students as new members.

- 4) **Pacific Micromount Conference (Wilkins):** Al handed out an event sheet covering the 2019 Pacific Micromount Conference slated for February 1, 2 and 3 (Field trip TBD). The conference will be held at the Fallbrook Mineral Museum. There was discussion concerning the equipment, Silent Auction, expected attendance (40 ±) and food (on your own). The event information sheets are being posted to the website and *Bulletin*.

5) **Field Trip Report (Rudy Lopez):**

- a) Boron – There were 8-9 people, good collecting, “unguarded” jasper, about 3 different sites visited;
- b) January 2019 - Lead Mountain – watch *Bulletin* and website for details;
- c) March 2019 – Baker, more information coming soon.

6) **Federation Director Report (JoAnna Ritchey):**

- a) Discussion about CFMS website – in need of updating;
- b) Reason for membership – state requires quorum, not every club always shows;
- c) Benefits of membership include: CFMS bulletin, committees or departments that offer scholarships and contests for other clubs, legislation regarding collecting, information about insurance, “how to” area (on website), field trips/outings and others;
- d) MSSC’s cost for CFMS membership is transportation and lodging for conventions and meetings attended by the Director (or her proxy);
- e) The upcoming Show and Convention will be held March 8-10, 2019 in Pomona (hosted by Pasadena Lapidary) and, the next show after that will be in Lodi.

7) **Program Chair (Rudy Lopez):**

- a) Speakers through 2019 except October and December. Discussion included Dr Rossman and JTI’s Alfredo Petrov as possible speakers.
- b) Education – we have over 4,200 bagged specimens to hand out including 3,240 chalcedony, 810 quartz crystals and the rest is petrified wood. There are 1,000 crystal cut-outs, as well. We’re good probably through 2019. We also have 30-40 pieces for the Banquet’s Silent Auction;
- c) Nature Fest is coming up in March 2019 where we will have 1 display case, the handouts, cut-outs and PowerPoint presentation loop.

- 8) **Website Report (Leslie Ogg):** The website had 500 views since last report with 108 for the Bulletin, 91 for PMC and other views. The Facebook venue shows “Like” every other day. Instagram is not set up yet, a work in progress – will try to get it running by next meeting. Dr. Rossman wanted to know if MSSC is a link on other websites – unknown, but will check CFMS, AFMS and others.

Discussion followed including MSSC money to Mindat. Jim Kusely will check with Ann Meister.

= = B R E A K = = = Thank you, Kathy, for the coffee and goodies.

9) **Bulletin Report (Linda Elsnau):** None at this time.

- 10) **Banquet Update (Rudy Lopez):** The Banquet will be the 2nd Saturday in January 2019 at Coco’s Arcadia. Discussion followed about the food. Rudy has announced the Banquet in the Bulletin for the past 2 months. Everything is there including price, which is \$40 per person. Silent Auction items are still needed although we have some items from the donation. Dr. Rossman mentioned that the attendance seems to be down from past years. Rudy said we were down by 4 from last year. Discussion about speakers and if people come for

the speakers or for the camaraderie, if our event is advertised by the Gem and Mineral Council or anywhere else. Rudy says invitations go out to others but not as many accept.

****Discussion about Monrovia Rock Hounds status. JoAnna provided information about MoRocks financials and closing business items.****

- 11) **Board Discussion: PCC Meeting and Parking.** (a) Due to our long-term relationship with PCC, it appears our meeting place and parking is good for now. However, the person who took Bruce Carter's place, Dave Douglas, is retiring and our relationship going forward is uncertain. As for parking, in particular, if the school changes parking security, we may run into the parking (citations) we experienced in the past. Rudy stated that when he arrives to open up, everyone there, including security, is aware of our start and stop time. There is not an absolute assurance but if something comes up, we can deal with it at that time. Bruce will contact the Secretary and the person in charge of the parking and reach out to them. (b) Jim wanted to know if there were more "parking stickers"; Rudy said there are more in the giveaway box. (c) Discussion and Motion: Giveaway (door prize) box is low on specimens. Jim suggested that if people go to shows, buy a couple and be reimbursed by MSSC – or, Rudy says PMC has great items at the dollar table. Rudy will see about having a box made for door prize box. George wanted to know if we are willing to spend \$100 to \$200/year to stock the giveaway box. **MOTION** to give Rudy Lopez the opportunity to act on behalf of MSSC to make purchases to stock the Door Prize Box with special samples/specimens with an amount not to exceed \$150.00. Motion made by George Rossman and seconded (by Jim Kusely). The Motion passed unanimously.

- 12) Next Board Meeting will be March 3, 2019 at 1 p.m. at Carter Residence.

Meeting Adjourned. Respectfully submitted by Angela Guzman, MSSC Secretary

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	February 22, 2019	Karin Rice: Geology of Rancho La Brea/ LA Brea Tar Pits
	March 8, 2019	Steve Mulqueen: The Golden Age of Rockhounding, 1946 – 1972
	April 12, 2019	Bruce Carter – Mineralogical - Identifying Mega Floods In Southern California
	May 10, 2019	The Webers- Rainforest Jasper of Queensland Australia
Board Meeting	March 3, 2019	Board Meeting at Bruce Carter's house
Annual Banquet	January 9, 2019	Denise Nelson - "Treasures of Poland, Amber and Salt":
Field Trip	January 5, 2019	Lead Mountain, Barstow, CA See details on page 12 of this bulletin
Micromineral Conferece	February 1,2,&3, 2019	Fallbrook Mineral Museum

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

L.A. Nature Fest

Mark your calendars for March 16 and 17, 2019!

Join us for a two-day festival as we celebrate L.A.'s wild side! There's a surprising amount of nature in Los Angeles, and the more you know how to look for it, the more you'll see. You'll be blown away by L.A.'s wild side: the plants, the animals, and the people devoted to protecting and studying them.

MSSC WILL ATTEND THE ANNUAL L.A. NATURE FEST.

We will pass out a mineral to every kid that comes to our tables. We will also have Crystal models for the kids to cut out and paste together.

Volunteers will be needed to assist with the cutouts and handing out the minerals.

Please contact: Rudy Lopez

626 993-7989 or programs@mineralsocal.org

OTHER (FREE) THINGS TO DO...Ann Meister

The **Von Kármán Lecture** on *Thursday/Friday* **January 10 and 11** at 7 PM. The speaker is “To be announced.”. The title of the talk is “**Red Planet Rovers and Insights.**” Get the scoop on the latest missions at Mars. This lecture will bring you up to speed on all things Mars, including: The biggest dust storm in a decade, rolling (and drilling) on "Rubin Ridge," a new rover under construction, and a recent arrival on Mars preparing to get down to business. ** Thursday is at the Von Kármán Auditorium at JPL and Friday is at Ramo Auditorium at Caltech.

The **Watson Lecture** at Caltech's Beckman Auditorium is on Wednesday, **January 16** at 8 PM. The speaker is Omer Tamuz is Assistant Professor of Economics and Mathematics at Caltech in the Division of the Humanities and Social Sciences. The title of his talk is, "**The Long Run Behavior of Random Walks.**" Random walks—trajectories formed by successions of random steps—have been studied for more than a hundred years as important models in physics, computer science, finance, and economics, and as interesting mathematical objects in their own right. Still, many simple questions remain unanswered, and are the subject of current research. In his talk, Omer Tamuz will describe some classical results, introduce random walks on groups and graphs, present some open questions regarding their long-run behavior, and talk about the solution of a longstanding problem as well as a surprising connection to economics.

The **UCLA Meteorite Gallery** lecture is on Sunday, **January 20**. The speaker is **Ky Hughson**, a Ph.D. candidate in our department of Earth, Planetary and Space Sciences. His title is “**The Dawn Spacecraft at Ceres, the Largest Asteroid.**” Ceres has the largest water content among large asteroids. After orbiting asteroid Vesta for 14 months, the Dawn spacecraft used its solar-electric propulsion system to move to Ceres and orbit it. During three years at Ceres, Dawn observed anomalous ammonium, vexatious volcanoes, wandering water ice, freaky flows, effervescent evaporites, capricious carbon, and many more peculiarities. Ceres' properties suggest that it is an evolved CM chondrite. The Meteorite Gallery in Geology room 3697 is open with a docent present every Sunday from 1 till 4. The lecture, which is always on a Sunday afternoon at 2:30 pm, is in room 3656 near the Meteorite Gallery.

Membership Dues are Due !

Please pay your dues! The last day for paid membership to be listed in 2019 MSSC Roster is Feb. 20, 2019.

Any dues received after this date will result in your information will not be listed in the MSSC Roster.

Rosters will be mailed on March 1, 2019.

Upcoming Field Trip: Lead Mountain Mine, Barstow, on Saturday Jan 5, 2019

We will meet at 9AM at the Meadow Grove Rd turnoff from Old Hwy 58 in Barstow. It's 1/2 mile west of the I-15 Old Hwy 58 exit (exit number 186). Here are the GPS coordinates of the meet place: 34°54'40.9"N 116°58'46.4"W (34.911360, -116.979560). The Google Maps link: <https://goo.gl/maps/SckwkXicP4K2>

It's 110 miles from Pasadena, so the driving time is a little bit over 1.5 hours.



The road to the mine is a little bit shaky but vehicles with reasonable clearance will make it with no problems. 4WD not necessary.

We will explore the Lead Mountain mine area for excellent **barite** crystals and beautiful **hemimorphite** sprays. Micromineral enthusiast can find **coronadite**, **plattnerite**, and other lead and manganese minerals. For the mine data and full list of minerals go to Mindat: <https://www.mindat.org/loc-18931.html>

We will go into the main mine adit, so hard hats are required. Also bring your flashlights, dust masks, and tools of your choice.

People interested in mining history can visit miner house ruins behind rocks around the corner.

Hope to see you all there!

Don't forget about the upcoming MSSC's 54th Annual Pacific Micromount Conference!

February 1 & 2, 2019
The Fallbrook Mineral Museum
123 W. Alvarado St., Fallbrook, CA
(Field trip on Sunday, Feb. 3)

Registration \$15.00 per person by mail, \$20 at the door

Full Details about the schedule, speakers and location were included in your December, 2018 Bulletin.

Even if you don't have a microscope, come check this event out. You will learn about the beauty of these tiny crystals, potentially meet new people, make new friends and may even be inspired to acquire a microscope of your own!

Hope to see you there.

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	<i>See email bulletin</i>

MSSC Advertisement Policy:			
Mineral-related ads are allowable in the MSSC bulletin. Below is the price per month			
	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			

***Have a Safe &
Happy New Year***

Calendar of Events:

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

JANUARY 2019

January 19 - 20: EXETER, CA

Tule Gem & Mineral Society, Visalia
Exeter Veterans' Memorial Building
324 N. Kaweah Avenue
Hours: Sat 10 - 5; Sun 10 - 4
Website: www.tulegem.com [Show Page](#)

FEBRUARY 2019

February 15 - 24: INDIO, CA

San Geronio Mineral & Gem Society
Riverside County Fair & National Date Festival
82-503 Highway 111
Hours: 10 - 10 daily

MARCH 2019

March 2 - 3: VENTURA, CA

Ventura Gem & Mineral Society
Ventura County Fairgrounds
10 West Harbor Blvd.
Hours: Sat 10 - 5; Sun 10 - 4
Website: www.vgms.org

March 8, 9 & 10 See CFMS notice >>>

March 8 - 10: VICTORVILLE, CA

Victorville Valley Gem & Mineral Club
Stoddard Wells Tailgate
Stoddard Wells Road off Dale Evans Pkwy
Hours: 9 - 5 daily
Website: vvgmc.org [Show Page](#)

Mark Your Calendars Now!

March 8, 9 & 10, 2019

80th CFMS SHOW & CONVENTION

Hosted by the Pasadena Lapidary Society,
Fairplex, Building 6, Pomona, California

Show Hours: FRI & SAT: 10 a.m. - 5 p.m. SUN:
10 a.m. - 4 p.m.

[VISIT PASADENA LAPIDARY SOCIETY'S SITE](#)
[for SHOW DETAILS](#)

[Advance](#)
[Registration](#)
[Form](#)

[CFMS Meeting](#)
[Schedule](#)

[Case Display](#)
[Registration](#)

[CFMS Lodging & Meeting Site](#)

see [Visitor Lodging](#)

Also



March 30 - 31: TORRANCE, CA

South Bay Lapidary & Mineral Society
Ken Miller Recreation Center
3341 Torrance Blvd (entrance on Madrone Ave)
Hours: Sat. 10 - 5; Sun. 10 - 4
Website: southbaylapidaryandmineralsociety.com
[Show Page](#)

Minerals that form Micro-sized Crystals

Photos © Rob Lavinsky & MineralAuctions.com



Jamborite

Locality: Ca' dei Ladri, Gaggio Montano, Reno Valley, Bologna Province, Emilia-Romagna, Italy



Libethenite

Locality: Tyrone Mine, Tyrone Area, Burro Mountains District, Grant Co.,



Minium

Locality: Tonopah-Belmont Mine, Belmont Mountain, Tonopah, Osborn District, Big Horn Mts, Maricopa Co.,

3.7 cm x 3.1 cm x 1.2 cm	New Mexico, USA 12.2 cm x 4.9 cm x 2.7 cm	Arizona, USA 2.8 cm x 2.1 cm x 1.0 cm
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2019 MSSC Officers:

OFFICERS		
President	George Rossman	president@mineralsocal.org
Vice President	Renee Kraus	vicepresident@mineralsocal.org
Secretary	Angie Guzman	secretary@mineralsocal.org
Treasurer	Jim Kusely	treasurer@mineralsocal.org
CFMS Director	Jo Anna Ritchey	
Past President	Ann Meister	
DIRECTORS		
2019--2020	Bruce Carter	
2019--2020	Bob Housley	
2019--2020	Leslie Ogg	
2018-2019	Pat Caplette	
2018-2019	Pat Stevens	
COMMITTEE CHAIRS		
Bulletin Editor	Linda Elsnaue	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 Elsnaue	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

Website: www.mineralsocal.org **The Mineralogical Society of California, Inc.**

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DISCLAIMER: The Mineralogical Society of Southern California, Inc. is not responsible, cannot be held responsible or liable for any person's injuries, damages or loss of property at or traveling to or from any general meeting, board meeting, open house, field trip, annual show or any other MSSC event.

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

To:



**With Knowledge Comes
Appreciation**

**Your MSSC
Bulletin Is
Here!**