With Knowledge Comes Appreciation

December, 14th, 2018 at 7:30 P.M.

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

Program: Continental Drift/Plate Tectonics Part 2 Presented by Walton Wright

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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: Continental Drift/ Plate Tectonics Part 2  Presented by Walton Wright

Walt Wright is the foremost authority on the identification of Petrified Wood in the United States. In this program, he discusses how petrified wood helps in understanding plate tectonics and continental drift. He wrote a chapter on the Triassic Chinle Formation on fossil woods in 2002, the “Secrets of Petrified Plants” in both English and German. When asked about his degrees, he sort of chuckled and said he had some, but that they were not that important, so we would just assume that he has quite a few. His recent study is Fossil Tree Ferns out of Argentina first discovered and reported in the Southern hemisphere which was published in Review of Paleobotany & Paleontology Journal. He is presently working in Utah describing new species of seed ferns from Queensland, Australia. Walt has worked as a botanist in one way or another in his working life, in New Mexico at the Natural Training Center B.S.A., Angeles National Forest U.S.F.S., U.C. Riverside, Santa Monica C.C., and as a consultant for numerous city, county, state, and federal jurisdictions. He received his 1st two specimens of petrified wood when he was about 10 and has been addicted ever since. Academically, his undergraduate work was at C.S.U. Fullerton and graduate work at U.C. Riverside. Leading serious botany and geology field trips started in 1967, giving Paleobotany talks from 1975, and Paleobotany seminars and classes from 1992. These programs have taken him from Dallas, TX, to Billings, MT., and Spokane, WA. to Toronto, Canada, and throughout CA., plus numerous hard to remember places in between. Foreign talks and seminars have been given in New Zealand and China.

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From the Editor:

Well, here we are at another December issue of the MSSC Bulletin. Time sure flies doesn’t it. It seems the older I get, the faster times flies! This issue marks the end of my 6th year as your bulletin editor. As the Board has agreed to let me become an absentee editor, I have agreed to continue for another year. It was my intention to create a Bulletin the is both informative and educational. With the help of Angie’s excellent minutes of our meetings and articles submitted by our talented members and officers (keep up the good work and my thanks to all), I think I have been successful and hope to continue working toward this goal.

The MSSC Banquet is coming up fast so it’s never too soon to start picking out your donations to the Silent Auction. Let’s see what interesting things we can all come up with.

December brings the holiday season and all of the busyness that comes with it. I hope everyone has a safe and happy holiday and a wonderful and successful new year. Linda Elsnau

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FROM THE PRESIDENT

Interesting Minerals, A to Z. Installment 12, the letter “L”: by George Rossman

Lazulite – Lazurite

Look carefully, those two mineral names are different. These are two different minerals, both normally blue in color. How easy it is to mix these names up. I do it often. Let’s take a look at each mineral in more detail.

Lazulite: MgAl₂(PO₄)₂(OH)₂

Lazulite, the magnesium aluminum phosphate was announced to the world in 1795 when Klaproth reported on a blue fossil that, upon analysis, was found to be colored by a mineral phosphate. This not the only fossil material colored by a blue phosphate. Viviaite Fe₃(PO₄)₂·8H₂O is another blue phosphate found in fossil material.

Klaproth MH (1795) Prüfung eines smalteblauen fossils von Vorau. Beiträge zur Chemischen Kenntniss der Mineralkörper 1, 197-202
Lazulite is actually a member of a group of minerals, all of which have very similar structures. The lazulite mineral group includes the species lazulite \([\text{MgAl}_2(\text{PO}_4)_2(\text{OH})_2]\), scorzalite \([\text{Fe}^{2+}\text{MgAl}_2(\text{PO}_4)_2(\text{OH})_2]\), barbosalite \([\text{Fe}^{2+}\text{Fe}^{3+}_2(\text{PO}_4)_2(\text{OH})_2]\), and hentschelite \([\text{Cu}^{2+}\text{Fe}^{3+}_2(\text{PO}_4)_2(\text{OH})_2]\). Each of these has \(\text{Fe}^{3+}\text{Fe}^{2+}\) octahedral trimers forming chains of face-sharing octahedra along the c-axis with every fourth octahedron vacant.

Figure 4. Local structure of lazulite showing the octahedral trimer consisting of an aluminum atom on each end and a magnesium atom in the center. The blue color occurs when \(\text{Fe}^{2+}\) occupies the Mg site and \(\text{Fe}^{3+}\) occupies an Al site.

It contains \(\text{Fe}^{3+}\) in the Al site and \(\text{Fe}^{2+}\) in the Mg site. This is another example of a blue mineral whose color is due to two different oxidation states of iron in adjacent crystal sites.

**Lazurite** \(\text{Na}_3\text{Ca(Si}_3\text{Al}_3\text{)}\text{O}_{12}\text{S}\)

Lazurite was formally described by Brögger and Bäckström in 1891 in a 67-page long report on minerals of the garnet group.


NO, lazurite is not a garnet. At that time, the authors associated many minerals such as sodalite, pollucite, analcime and lucite with the garnet group. In particular, they described members of the sodalite series and recognized that the blue mineral in lapis lazuli was different from other members of the sodalite series. They called it lazurite. Lapis Lazuli (Figure 5), of course, was well-known in ancient times where is as found in the Hindu Kush Mountains in the Badakhshan province of Afghanistan and was traded widely thousands of years ago. The death mask of Egyptian Pharaoh Tutankamun contains lapis lazuli around the eyes.
Another source of Lapis is high in the Andes mountains of Chile (Figure 6). It is metamorphic rock containing lazurite, calcite, wollastonite, diopside among small amounts of other minerals.

We even have some lazurite, in the form of lapis lazuli, locally in the San Gabriel Mountains (Figure 7), although the Forest Service has been known to actively discourage collecting there.

Finally, we came to a blue mineral whose coloring is NOT due to iron in two different oxidation states. The coloring in lazurite is due to the $S_3^-$ ion, a short-chain polymer of three atoms of sulfur carrying a single negative charge. The $S_3^-$ ion is the same ion that causes the color in the ultramarine pigment. This is not surprising because ultramarine was originally made by powdering lapis lazuli. It can now be made synthetically, industrially (Figure 8).

Even with all this information, I still find it easy to mix these names up.

Figure 5. Lapis Lazuli from Sar-e Sang, Kosha Valley, Badakhshan Province, Afghanistan. Photo credit: Mark Garcia, Caltech

Figure 6. Lapis from Andes of Ovalle, Limari Province, Chile. Photo credit: Mark Garcia, Caltech

Figure 7. Lapis from Cascade Canyon, San Gabriel Mountains, San Bernardino County, California. Photo credit: Mark Garcia, Caltech

Figure 8. Synthetic ultramarine pigment. Image source: Public Domain, https://commons.wikimedia.org/w/index.php?curid=658611

MINUTES of the November 9, 2018 Meeting

The 962nd Membership Meeting of the Mineralogical Society of Southern California (MSSC) was called to order by President George Rossman at 7:30 p.m. on Friday, November 9, 2018.

President Dr. Rossman stated there are 5,390 mineral species recognized by the IMA.

Regular Business: Minutes

A MOTION was made to approve the Minutes of the Membership Meeting held October 12, 2018 as published in the November 2018 Bulletin, by Jim Kusely and seconded by Rudy Lopez. There were no additions or corrections and there was no discussion. The vote was called by President Rossman. The motion to approve the minutes, as stated, passed unanimously by voice vote.

New Business: Election of Officers and Directors*

President Rossman opened the formal nominations for Officers and Directors of the Mineralogical Society of Southern California, as follows:
Current President is Dr. George Rossman. He asked if there were other nominations and hearing none, called for the vote of those in favor to maintaining him as President and signify by stating “yes”. Dr. Rossman was unanimously re-elected as President.

Current Vice President is Renee Kraus, who indicated to Dr. Rossman that she will be spending quite a lot of time in the Northern California area. However, she would attend major meetings, events and the annual picnic but normally not attend regular membership meetings if re-elected. George called for nominations for Vice President and seeing none called for voice vote to re-elect Renee Kraus. The vote was unanimous.

Current Treasurer is Jim Kusely. Dr Rossman opened nominations for Treasurer and seeing none called for the voice vote to re-elect Jim Kusely for the position. The vote was unanimous.

Current Secretary is Angie Guzman. Dr. Rossman opened nominations for Secretary and seeing none called for the voice vote to re-elect Angie Guzman for the position. The vote was unanimous.

CFMS Director JoAnna Ritchey has indicated she will have limited travel capabilities due to personal issues. However, she is willing to stay on as Federation Director providing her meeting/conference attendance is to local sites. [Discussion regarding a proxy for long distance meetings.] Dr. Rossman opened nominations for CFMS Director, seeing none called for voice vote to re-elect JoAnna as CFMS Director. The vote was unanimous.

Past President is Ann Meister.

Director’s positions (3): Bruce Carter, Bob Housley and Leslie Ogg had all agreed to serve another two-year term, 2019-2020. Dr. Rossman called for any nominations for Directors and seeing none called the vote to re-elect these Directors. The vote was unanimous.

Congratulations to all Officers and Directors who are re-elected to their positions. “Installation” will be held at the January 2019 Banquet. Watch the Bulletin for details.

Announcements

-West Coast Gem and Mineral show is this weekend (Nov 12-14);
-Costa Mesa Gem Faire will be Nov 30, Dec 1-2;
-JTI Open House December 1, 2018 10am-4pm (See below);
-Nature Fest March 16-17, 2019 (see Show & Tell below).

Reports

Field Trip led by Marek Chorazewicz to Rio Tinto Borax Mine Center will be Nov 10; meet up is 9am. After looking at the crystals in the Visitor Center and having a look at the mine (from afar), it’s onward to Saddleback Mountain. At Saddleback, the hunt will be for opal, magnesite and calcite. Finally, about 1.5 miles down the road, Marek says, "... we’ll search for zeolites like heulandites, chabazite and phillipsite..." among others. Sounds like a great trip! [Catherine Govaller has offered anyone a ride to this field trip.]

Upcoming field trips include Lead Mountain (mid-December), Blue Bell Mine (January) and crater location (February). Watch the Bulletin and website for exact dates/times.

JTI Open House: Dr. Rossman announced that for those who do not want to field collect, you can collect at Jewel Tunnel Imports (JTI). Their annual Open House for the Society will be December 1, 2018 from 10am–4pm. JTI is one of the largest warehouses in the United States with mineral specimens, lapidary materials, fossils and more.

Show & Tell

Rudy Lopez brought in some items from the huge donation the Society received last month. He’s planning a field trip to his house! Check out the refreshment room after the meeting to see a sampling.
Nature Fest: Rudy also mentioned the 2-day Nature Fest at the Natural History Museum March 16-17, 2019. MSSC is proud of its participation - this will be our 5th consecutive year at the fest! We’ve been there since the beginning. There will be 70+ vendors, tours, shows and more. MSSC will have exhibit cases of minerals, a PowerPoint presentation showing past MSSC field trips (continuously running in the background), crystal cut-outs and bagged specimens for the kids. It’s a great outreach event for us and loads of fun! Rudy put a call out for volunteers. The fest time is 9am -3pm each day, as vendors, our admission is free and so is the parking. Let Rudy know if you would like to volunteer. Your help is always welcome.

New Members and Visitors

Dr. Rossman inquired if there were any new members or visitors tonight. No new members. Guest in attendance: Kyra Haussler (Aseki Kai – Japanese viewing stones), Linda Gonzalez (interest is crystals) and Gabriel Gonzalez (Aseki Kai). Welcome! [Aseki Kai club is involved with exhibits of Japanese viewing stones. The club’s interesting exhibition is right after Christmas at the Huntington in the botanicals area.]

Program

The meeting was turned over to Program Chair Rudy Lopez who introduced tonight’s speaker, Renee Newman. Before Renee became a gemologist, she was a professional tour guide to Asia, South America and the South Pacific. It was her exposure to gems in those places that prompted her to take courses at the Gemological Institute of America (GIA) and pursue a full-time career as a gemologist. She was convinced to write a book, a condensed buying guide with tips on all gems. Some 14 books later, she is a respected gemologist whose books are used around the world as buying guides, class texts and reference materials for jewelry professionals.

Renee begins by showing a beautiful jade (jadeite) bangle that sold for $670,856 at auction in 2014! That same year, a solid green jade bangle sold for $5.6 million. Wow! Ms. Newman tells us that river jade (pebbles) is more valuable than mountain jade.

Jade is not a single mineral. Jadeite (Burma-Myanmar) and nephrite (China) are each commonly called jade. Jadeite was introduced to China in the late 1700’s. It is called hard jade, 7 on the Mohs scale. It is mostly aluminum rich pyroxene. It is less abundant that nephrite. Jadeite has more color varieties, while green is most recognizable, it also may be grayish green, white, pale blue-gray or pale purple. It is fine-grained fibrous, massive to granular and its fracture is splintery to uneven. Beside Myanmar, which has the best quality, jadeite occurs in California (San Benito County), Mexico, Japan and Tibet.

Nephrite, native to China, has had significance there since about 220 BC. Nephrite is called soft jade, 6-6.5 on the Mohs scale. It is mostly magnesium rich amphibole. It is a variety of actinolite, it is fibrous, and its fracture is splintery to uneven. Nephrite is more abundant than jadeite but has fewer color variety: creamy white to green. Aside from China, nephrite occurs in Russia, New Zealand, British Columbia, Canada and Taiwan.

These gem stones have similar properties to the average person. Jade is cold to the touch unless worn close to the skin. Jade is carved by other jade. It has been known to have mystic healing powers for kidney, liver, muscle spasm and complexion, to name a few.

Renee displayed several photos of jadeite and nephrite, beautifully carved and crafted and very expensive.

Next, she showed photos of imitation jade which includes dyed green quartz, chalcedony, translucent garnet and others. There is even plastic jade. Many types of imitations are passed off as genuine and valuable. Look closely for chips or cracks. You can also see if the jade can be scratched. Remember, jadeite and nephrite range between 6 – 7.5 on the Mohs scale. Non-technical ways to identify jade include where it comes from (location), heft, fracture, color, scratch test and magnification.

To test if your jade has been treated, gently hit two pieces together, listen to the sound. If it is dull, the material probably has been impregnated. If all beads (necklace or bracelet, say) are perfectly matched, or if colors are vivid on a piece, it has probably been treated. Treatments include acid bleaching and polymer impregnation. Another test is if the price is too low, it’s probably not real jade.
On the other hand, Barbara Hutton, the Woolworth heiress, owned the Hutton-Mdiviani jadeite necklace. In 2014, at that Sotheby’s Hong Kong auction mentioned earlier, the necklace stole the show and drew the most attention. The highest bidder (Cartier Collection) paid $27,440,000 for it!

Complimenting her presentation, Renee brought several jadeite and nephrite bangles and pieces for exhibit. Several of her books were available for sale, as well. Wonderful presentation. Great pieces and books. Thanks, Renee Newman!

**Door Prize:** The drawing was won by guest Gabriel Gonzalez. Congratulations!

**Adjourn:** The meeting was adjourned at 8:47 p.m. Refreshments, interesting conversation and viewing of the Show & Tell items followed the meeting. Thanks to Ahni Dodge for bringing and setting up the refreshments and to Rudy Lopez for his home baked goodies. Yum!

**Reminders:**
- Submissions for the *Bulletin* are due to Editor Linda Elsnau by the 22nd of the month;
- JTI Open House December 1, 2018 10am-4pm;
- Board Meeting December 2, 2018 1pm at Carter residence;
- Our next Membership meeting will be Friday, December 14, 2018. Speaker scheduled is Walton Wright: “Plate Tectonics 2”.

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

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**List of Upcoming MSSC Events:** Mark your Calendar!

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<td>February 22, 2019</td>
<td>Karin Rice: Geology of Rancho La Brea/ LA Brea Tar Pits</td>
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<td>April 12, 2019</td>
<td>Bruce Carter – Mineralogical - Identifying Mega Floods In Southern California</td>
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<td>Board Meeting</td>
<td>December 2, 2018</td>
<td>Board Meeting at Bruce Carter’s house</td>
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<tr>
<td>Annual Banquet</td>
<td>January 12, 2019</td>
<td>Denise Nelson - &quot;Treasures of Poland, Amber and Salt&quot;:</td>
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<td>Micromineral</td>
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<td>Conference</td>
<td>February 1,2,&amp;3, 2019</td>
<td>Fallbrook Mineral Museum</td>
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<td>Field Trips</td>
<td>Late Nov or Early Dec, 2018</td>
<td>Bluebell Mine</td>
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<td>Late December</td>
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*Note: Dates and programs shown above are subject to change. Check your bulletins to confirm final information each month.*

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**MSSC ANNUAL BANQUET & SILENT AUCTION**

**Saturday, January 12, 2019**

Social Hour 5:30 pm: Dinner 6:30 pm;  
Speaker 7:30 pm

Oak Tree Room (next to Coco's)  
1150 West Colorado Boulevard  
Arcadia, CA 91007

*The cost of the Banquet is $40.00 per person*

There is plenty of seating available. If you made a reservation and circumstances change where you or your guests cannot attend, please notify Rudy Lopez before Wednesday, January 10th, 2018.
Thereafter you will be responsible for paying $40.00 for each individual reservation regardless of attendance. It would be a shame to miss this event because you delayed making that reservation.

**Call or email Rudy Lopez to make your reservation today!**

626 993-7989  
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 1/1/2019.

**Topic:** "Treasures of Poland, Amber and Salt"

**Presented by:** Denise Nelson

The 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. Denise is a Graduate Gemologist (GIA), 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) and the Gemmological Association of Great Britain.

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**Don’t forget to bring silent auction items to fill the tables. This is the time to clear space in your house or collection for new mineral treasures you might find at our banquet.** The silent Auction is MSSC’s main fundraiser for the year so bring plenty of auction item to donate and funds to buy!

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

The **Von Kármán Lecture** on *Thursday/Friday* "Due to the busy nature of the holiday season, there will be no lecture held this month". **Thursday** is at the Von Kármán Auditorium at JPL and Friday is at Ramo Auditorium at Caltec. [https://www.jpl.nasa.gov/events/lectures_archive.php?year=2018](https://www.jpl.nasa.gov/events/lectures_archive.php?year=2018)


The **UCLA Meteorite Gallery** lecture is on Sunday, **December 2**. The speaker is **Dr. Aaron Celestian**. His title is “**Minerals, Microbes, and Mars**”. Celestian, Associate Curator at NHM also collaborates with JPL scientists in a search for signs of ancient life preserved in minerals on Earth. Using non-destructive analytical methods, they measure biosignatures (like beta-carotene) in crystals that are thousands or even millions of years old. Their findings will help assess data from NASA missions to Mars and the icy moons of Saturn and Jupiter, places that may harbor life. 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.

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**With Knowledge Comes Appreciation!**
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 at 626 993-7989 or programs@mineralsocal.org

The Mineralogical Society of Southern California proudly presents

**The 54th annual Pacific Micromount Conference**

February 1 and 2, 2019 at
The Fallbrook Mineral Museum
123 W. Alvarado St., Fallbrook, CA

**FRIDAY, February 1**

3:00-6:00 PM **On-site Registration**, greeting friends, setting up scopes, $1 sales table opens

6:00-7:00 **Dinner (on your own)** – Several cafes and a great Mexican restaurant are within a few blocks of the museum

7:00-8:00 PM “McDermitt Mine Update: Geology, Microminerals, and Fun”
Michael Cox and Ted Hadley will provide an update on Gail Dunning’s McDermitt Project, now in its fourth year. Mike will discuss the evolution of thought with respect to the McDermitt Caldera and tracking down microminerals for research. Ted will run through photos of many spectacular micromineral finds.

8:00-9:00 PM **Contributed Talks & Mineral Photos**

**SATURDAY, February 2**

8:00-9:00 AM **Doors open**, on-site Registration, filling give-away & sales tables

10:00 **Welcome**, Special Announcements & Morning speaker introduction

10:15-11:30 **Morning Presentation** by Paul Adams
“**The Copper World and Mohawk Mines, San Bernardino County, CA**”

Noon **Lunch** (on your own)

2:00-3:15 **Afternoon Presentation** by Georges Favreau
"**Chinese thallium minerals**" - Rare species, and lots of good color and SEM pictures

3:30 PM **SILENT AUCTION** of donated specimens, mineralogical books/magazines, maps, etc.

4:00-5:00 PM **VERBAL AUCTION** of donated specimens

5:00-6:00 **Microscope time**, scouting the give-away & sales tables
6:00-7:00  Dinner (on your own)
7:00 PM  Contributed talks & Mineral Photos

**SUNDAY, February 3**

**Field Trip** – site to be determined (no additional cost)

Now is a very good time to make your advance registration for the 2019 Pacific Micromount Conference. Conference registration fee is $15 before the conference & $20 at the door. Continue below for a Registration Form, driving directions & list of accommodations within 10 miles of the museum. Please provide the names & current city of residence of all in your party when registering. We like to have a personalized name-tag waiting for everyone in attendance. And please bring a couple of nice micromineral specimens for the verbal auction and any unwanted mineralogical books, magazine, photo equipment or larger mineral specimens for the silent auction table. Hope to see you there!

**LOCATION**

*Fallbrook Mineral Museum, 123 W. Alvarado St., Fallbrook, CA 92028 (760) 728-1130*

Directions from L.A. / San Bernardino / Pasadena areas (~95 miles):
- Take the I-210 E toward San Bernardino for 18.5 miles
- Take Exit 45 for CA-57 South toward Santa Ana for 4 miles
- Take Exit 22C for CA-71 South toward Corona for 16.7 miles
- Exit left onto CA-91 East toward Riverside for 4.7 miles
- Exit left onto I-15 South for 45.8 miles
- Take Exit 51 toward Mission Rd. for 0.3 mile
- Turn right onto Old Hwy. 395 for 177 feet, then quick right onto E. Mission Rd. for 4.4 miles
- Turn left onto N. Brandon Rd. for 0.2 mile
- Turn right onto E. Alvarado St. & proceed for 0.4 mile. Destination is on your right. Parking is on the left.

**NEARBY ACCOMMODATIONS**

Motels listed in order of proximity to the Fallbrook Museum:
- Name --- number of stars
- Miles to Fallbrook City Center --- Rating/10 --- Price as low as ___
- Address
- Phone

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<th>Motel Name</th>
<th>Distance to Fallbrook</th>
<th>Rating/10</th>
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<td>Fallbrook Country Inn **</td>
<td>1.0 miles --- 6.7 --- $49</td>
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<td>1425 S. Mission Rd., Fallbrook (760) 728-1114</td>
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<td>Econo Lodge Inn &amp; Suites Fallbrook **</td>
<td>1.1 miles --- 7.5 --- $49</td>
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<td>1608 S. Mission Rd., Fallbrook (760) 723-1127</td>
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<td>Rodeway Inn Fallbrook **</td>
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<td>1634 S. Mission Rd., Fallbrook (760) 728-6174</td>
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<td>Pala Mesa Resort ***</td>
<td>4.7 miles --- 7.2 --- $99</td>
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<td>2001 Old Hwy. 395, Fallbrook (760) 728-5881</td>
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<td>Quality Inn Fallbrook I-15 **</td>
<td>5.3 miles --- 6.2 --- $60</td>
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<tr>
<td>3135 Old Hwy. 395, Fallbrook (760) 723-2888</td>
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<tr>
<td>Temecula Creek Inn ***</td>
<td>8.8 miles --- 7.9 --- $199</td>
<td>***</td>
<td></td>
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<tr>
<td>44501 Rainbow Canyon Rd., Temecula (844) 791-6073</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ramada Temecula Old Town **</td>
<td>9.3 miles --- 7.6 --- $78</td>
<td>**</td>
<td></td>
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<tr>
<td>28980 Old Town Front St., Temecula (951) 676-8770</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pechanga Resort &amp; Casino **</td>
<td>9.4 miles --- 8.3 --- $199</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>45000 Pechanga Parkway, Temecula (951) 693-1819</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Rodeway Inn Temecula **</td>
<td>9.6 miles --- 6.3 --- $70</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>28718 Old Town Front St., Temecula (951) 676-4833</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motel 6 Temecula *</td>
<td>9.8 miles --- 6.8 --- $60</td>
<td>*</td>
<td></td>
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<tr>
<td>41900 Moreno Rd., Temecula (951) 676-7199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rancho California Inn **</td>
<td>9.8 miles --- 7.4 --- $70</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>41873 Moreno Rd., Temecula (951) 676-5700</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Advance Registration Form**

**PACIFIC MICROMOUNT CONFERENCE**
February 1 and 2, 2019 (Field trip on Sunday, Feb 3)

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

No. of people _____  Amount ________

Names – City of Residence

_____________________________________________
_____________________________________________
_____________________________________________

All meals are on your own this year – a few cafes and a great Mexican restaurant within walking distance of the museum

**Field Trip on Sunday** (no charge)

Are you interested in attending the field trip?    Yes ____ No ____
Number of participants in your party _____

There will be a sign-up list for the field trip at the registration desk; please include a cell # for ease of contact with your party before & during the field trip

Send Payment to:
Al Wilkins, PMC Chair
23202 Via Celeste
Coto de Caza, CA 92679-3919

Make checks payable to MSSC

I plan on presenting a short-contributed talk _____
The topic will be __________________________________________
Approximate length of talk in minutes ________Format [flash drive (preferred), DVD, slides, etc.)

__________________________

[143x38]Volume 91,  Number 12--  MSSC Bulletin, December, 2018  Page  11
**Favorite Minerals of the Month:** I thought it might be interesting to look at a few of my favorite “Featured Minerals of the Month from the past 6 years. --- Enjoy!

<table>
<thead>
<tr>
<th>Month, Year</th>
<th>Image</th>
<th>Mineral</th>
<th>Formula</th>
<th>Locality</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>March, 2013</td>
<td>![Tourmaline, Albite](irocks.com photo)</td>
<td>Tourmaline, Albite</td>
<td>BaTi(SiO₃)₂</td>
<td>Pamaró mine, Linópolis, Divino das Laranjeiras, Doce valley, Minas Gerais, Brazil</td>
<td>3.4 x 2.8 x 2.2 cm</td>
</tr>
<tr>
<td>August, 2013</td>
<td>![Benitoite](irocks.com photo)</td>
<td>Benitoite</td>
<td>BaTi(Si₃O₉),</td>
<td>Dallas Gem Mine (Benitoite Mine; Benitoite Gem Mine; Gem Mine), Dallas Gem Mine area, San Benito River headwaters area, New Idria District, Diablo Range, San Benito Co., California, USA</td>
<td>1.9 x 1.6 x 0.9 cm</td>
</tr>
<tr>
<td>July, 2014</td>
<td>![Ludlockite](irocks.com photo)</td>
<td>Ludlockite</td>
<td>PbFe³⁺₄As³⁺₁₀O₂₂</td>
<td>Tsumeb Mine (Tsumcorp Mine), Tsumeb, Otjikoto Region (Oshikoto), Namibia</td>
<td>1 cm x 0.8 cm x 0.8 cm</td>
</tr>
<tr>
<td>September, 2015</td>
<td>![Spinel](irocks.com photo)</td>
<td>Spinel</td>
<td>MgAl₂O₄</td>
<td>Mogok Township, Pyin-Oo-Lwin District, Mandalay Division, Burma</td>
<td>1.1 cm x 1 cm x 0.9 cm</td>
</tr>
<tr>
<td>February 2016</td>
<td>![Aragonite](irocks.com photo)</td>
<td>Aragonite</td>
<td>CaCO₃</td>
<td>Tazouta, Sefrou, Sefrou Province, Fès-Boulemane Region, Morocco</td>
<td>5.1 cm x 4.3 cm x 3.3 cm</td>
</tr>
<tr>
<td>March, 2017</td>
<td>![Malachite](irocks.com photo)</td>
<td>Malachite</td>
<td>Cu₂CO₃(OH)₂</td>
<td>Kolwezi District, Katanga Copper Crescent, Katanga, Democratic Republic of Congo</td>
<td>7.8 cm x 6.7 cm x 0.6 cm</td>
</tr>
<tr>
<td>August, 2018</td>
<td>![Copper, Calcite](irocks.com photo)</td>
<td>Copper, Calcite</td>
<td>Cu, CaCO₃</td>
<td>Ogonja Mine, Ogonja, Seeis, Windhoek District, Khomas Region, Namibia</td>
<td>4 cm x 3.3 cm x 3 cm</td>
</tr>
</tbody>
</table>
**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

<table>
<thead>
<tr>
<th>Looking for</th>
<th>Who</th>
<th>Where</th>
<th>Contact at</th>
</tr>
</thead>
<tbody>
<tr>
<td>A ride</td>
<td>Richard Stamberg</td>
<td>North Orange County, near Cal State Fullerton</td>
<td>See emailed bulletin</td>
</tr>
</tbody>
</table>

**********

**MSSC Advertisement Policy:**

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

<table>
<thead>
<tr>
<th>Ad Type</th>
<th>Price per Month</th>
</tr>
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<tbody>
<tr>
<td>Business Card</td>
<td>$5.00</td>
</tr>
<tr>
<td>1/3 page</td>
<td>$10.00</td>
</tr>
<tr>
<td>1/2 page</td>
<td>$20.00</td>
</tr>
<tr>
<td>Full Page</td>
<td>$35.00</td>
</tr>
</tbody>
</table>

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/

DECEMBER 2018

December 1 - 2: BARSTOW, CA
Mojave Desert Gem & Mineral Society
Cora Harper Community Center
841 S. Barstow Road
Hours: 10 - 5 daily
Website: www.mdgms.net

2019 Shows

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

FEBRUARY 2019

February 15 - 24: INDIO, CA
San Gorgonio 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 - 10: VICTORVILLE, CA
Victorville Valley Gem & Mineral Club
Stoddard Wells Tailgate
Hwy 15/Stoddard Wells Road off Dale Evans Pkwy
Hours: 9 - 5 daily
Website: www.vvgmc.org

Mark Your Calendars Now!

Mark Your Calendars Now!
March 8, 9 & 10, 2019
80th CFMS SHOW & CONVENTION
Hosted by the Pasadena Lapidary Society
Fairplex, Building 6
Pomona, California
Hours: Fri. & Sat., 10 am - 5 pm - Sun., 10 am - 4 pm
Visit Pasadena Society's Show Page for details and forms including dealer information.

March 30 - 31: TORRANCE, CA
South Bay Lapidary & Mineral Society
Ken Miller Recreation Center
3341 Torrance Blvd (entrance on Madrona Ave)
Hours: Sat. 10 - 5; Sun. 10 - 4
Website: southbaylapidaryandmineralsociety.com

Wishing all a Safe, Happy & Healthy Holiday Season!
2018 MSSC Officers:

<table>
<thead>
<tr>
<th>OFFICERS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>George Rossman</td>
<td><a href="mailto:president@mineralsocal.org">president@mineralsocal.org</a></td>
</tr>
<tr>
<td>Vice President</td>
<td>Renee Kraus</td>
<td><a href="mailto:vicepresident@mineralsocal.org">vicepresident@mineralsocal.org</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Angie Guzman</td>
<td><a href="mailto:secretary@mineralsocal.org">secretary@mineralsocal.org</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>Jim Kusely</td>
<td><a href="mailto:treasurer@mineralsocal.org">treasurer@mineralsocal.org</a></td>
</tr>
<tr>
<td>CFMS Director</td>
<td>Jo Anna Ritchey</td>
<td></td>
</tr>
<tr>
<td>Past President</td>
<td>Ann Meister</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>DIRECTORS</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>2016--2018</td>
<td>Bruce Carter</td>
<td></td>
</tr>
<tr>
<td>2016--2018</td>
<td>Bob Housley</td>
<td></td>
</tr>
<tr>
<td>2016--2018</td>
<td>Leslie Ogg</td>
<td></td>
</tr>
<tr>
<td>2018-2019</td>
<td>Pat Caplette</td>
<td></td>
</tr>
<tr>
<td>2018-2019</td>
<td>Pat Stevens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMMITTEE CHAIRS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulletin Editor</td>
<td>Linda Elsnau</td>
<td><a href="mailto:bulletin@mineralsocal.org">bulletin@mineralsocal.org</a></td>
</tr>
<tr>
<td>Hospitality</td>
<td>Laura Davis</td>
<td></td>
</tr>
<tr>
<td>Membership</td>
<td>Cheryl Lopez</td>
<td><a href="mailto:membership@mineralsocal.org">membership@mineralsocal.org</a></td>
</tr>
<tr>
<td>Micro Mount Conf. Chairman</td>
<td>Al Wilkins</td>
<td></td>
</tr>
<tr>
<td>Program and Education</td>
<td>Rudy Lopez</td>
<td><a href="mailto:programs@mineralsocal.org">programs@mineralsocal.org</a></td>
</tr>
<tr>
<td>Publicity</td>
<td>Linda Elsnau</td>
<td><a href="mailto:bulletin@mineralsocal.org">bulletin@mineralsocal.org</a></td>
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<tr>
<td>Webmaster</td>
<td>Leslie Ogg</td>
<td><a href="mailto:webmaster@mineralsocal.org">webmaster@mineralsocal.org</a></td>
</tr>
</tbody>
</table>

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.
To:

With Knowledge Comes Appreciation

Your MSSC Bulletin Is Here!