Bulletin of the Mineralogical Society of Southern California

Volume 87 Number 12 - December, 2014

The 916th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

December 12th, 2014

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

Program : **The Color Of Peridot And Other Green Minerals, by George Rossman**

In this Issue:

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 Color Of Peridot And Other Green Minerals.,

Presented by George Rossman.

Color is in, and many of our favorite minerals have green color. What makes minerals such as beryl, tourmaline, garnet and zoisite green? We will take a look at a variety of green minerals and look at the origin of their color both from the point of where they absorb and transmit light to what atoms are responsible for the color. There is not a single cause. Many reasons exist for the color of green minerals that are well-known to collectors. Elements such as iron and chromium are some of the reasons. But there are other reasons as well. We will also discuss why chromium can cause both green color (emerald) and red color (ruby). This gets right down to where the electrons are in the atoms.

Here is the question: Is the green color of this chrome tremolite from the Meralani Hills, Tanzania, due to chromium?

There will be lots of pictures of pretty minerals, (and, just maybe, of a few ugly ones as well), but we will definitely strike a green cord when we learn about the green minerals in the natural environment.

Dr. George R. Rossman (MSSC's very own Vice President) is the McMillan Professor of Mineralogy at the California Institute of Technology. His research interests deal with the use of the electromagnetic spectrum to study minerals. His work addresses problems relating to mineral identification, the origin of color, and the role of low-concentrations water in nominally anhydrous solids. Come see an informative and colorful program!

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From the Editor: Linda Elsnau

Well, as I work on this bulletin we are speeding into the holiday season. I hope everyone has (or had) a wonderful Thanksgiving and a safe and thrifty black Friday after (we stay home!) We are also fast coming into the Annual Banquet and the Micro conference so make your reservations NOW. I'm also wishing everyone a safe and happy 2014 Holiday season overall. My thanks to Steve Hardinger for this month's very interesting article about a new mineral related attraction in Southern California. Also, don't forget:

Dues Are Due We sent you the 2015 Membership form with last month's Bulletin!

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MEANDERINGS FROM THE PRESIDENT by Ann Meister

Thank you, MSSC members, for a successful 2014! A special thank you to the current set of officers and directors who are continuing in their jobs. And thank you to all the committee chairs, the *Bulletin* Editor and the Webmaster for jobs well done. The election of officers and directors for 2015 was postponed to the December meeting, so the nominations are still open. If you would like to submit an additional candidate for any office, make sure you have that person's permission before making the nomination.

Our newest activity, the Special Lecture in November at the Volsloh Forum at PCC, was a success with about 85 people in attendance (don't know how many were members and how many guests). The subject, the Mars rover Curiosity, is fascinating to me because it is the only way that we can currently have a field trip to Mars. Before the talk, I spoke with the presenter, Sarah Milkovich of JPL, about non-Earth geology and mineralogy and how knowledge of what is on Earth is important to the scientist who cannot be present on Mars or where ever in the universe. If you are not familiar with the geologic processes on Earth, you may have difficulty interpreting what you see on another planet or moon. Conversely, what you see on the planets and moons may help our understanding of Earth's history. I'm having a "mental disconnect" with the terminology. Since the prefix geo- means "of or relating to the earth," can it be used on the planets and moons? Or is there a new word

we need to learn? From what I can find, we are making do with the word we already know. Well, that makes life easier.

Is there any other special activity you would like to see? Perhaps another Special Lecture? At this time the major activities of MSSC are the monthly meetings, the Banquet, the Picnic, and the annual JTI Open House. Ah, but I can't forget: 2015 marks the **50th** annual Pacific Micromount Conference. It will be held at the San Bernardino County Museum on January 30-31, 2015 with a field trip on Sunday, February 1. There's more information on all these activities (except the picnic) elsewhere in this Bulletin. Let me know what you would like to add to this calendar, but remember, you may be asked to be the organizer and/or leader of the activity. I know you want field trips, but unless we have someone willing to plan and to lead them, alas, there will not be any field trips.

I wish you all a Merry Christmas and/or Happy Holidays. May you enjoy your family and friends, the tasty meals and other goodies, but also remember to extend a helping hand to someone in need. This is the season of giving; give of yourself to others – not just physical gifts, but time spent with those who need a friend or share a special meal with a shut-in. May you all enjoy the beauty and spirit of the season.

SAN GABRIEL MOUNTAINS NATIONAL MONUMENT

With the announcement from the White House on October 10. 2014, we now have the San Gabriel Mountains National Monument in our back yard. The U.S. Forest Service has three years to develop a final management plan for the national monument. Some long time collecting areas such as the Pacoima Canyon allanite pegmatite and Cascade Canyon are not in the monument, but the gold panning areas are. Exactly what will change is not yet known. In back of Altadena, Monrovia, etc., the border appears to behind the ridge on which Mt Wilson is located, so there is a lot on our side that is not included. Also outside the boundary are Tujunga Canyon and the Arroyo Seco area. The press release states that

> "More than 15 million people live within 90 minutes of the San Gabriel Mountains, which provides 70 percent of the open space for Angeleños and 30 percent of their drinking water. The 346,177 acre site contains high-quality wilderness areas, habitat for rare and endangered animals like the California condor, and a rich array of cultural and historical features."

There are maps and other information on-line.

www.fs.fed.us/visit/san-gabriel-mountains-national-monument ;
www.whitehouse.gov/the-press-office/2014/10/10/president-obama-designates-san-gabriel-mountains-national-monument ;
www.scpr.org/news/2014/10/24/47638/why-a-chunk-of-the-san-gabriel-mountains-was-left/ ;
www.sangabrielmountains.org

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MINUTES of the November 14, 2014 Meeting

The **915th** meeting of the Mineralogical Society of Southern California was held on Friday, November 14, 2014, at Pasadena City College's Volsloh Forum auditorium. President Ann Meister brought the meeting to order at 7:30pm. Ann dispensed with any official Regular Business and turned the meeting over to Program Chair, Rudy Lopez for introduction of the evening's special program presenter, Dr Sarah Milkovich.

Rudy introduced our presenter, Dr. Sarah Milkovich: Dr Milkovich joined the Jet Propulsion Laboratory (JPL) in 2005 as a postdoctoral research fellow studying Martian ice deposits using images, radar and topography. In 2008 she became a science planning systems engineer. She was a member of the surface operations team for Mars Phoenix (north polar region exploration site) during the summer of 2008 and on the science planning team for the Cassini-Huygens mission at Saturn from 2008-2012. Dr Milkovich's scientific research continues to focus on the geological history of the polar deposits of Mars. She is currently working on the 2020 Mars Rover project.

Program: Mars Science Laboratory: The Curiosity Rover Years 1 & 2

The Curiosity Rover landed at the Gale Crater on Mars on August 5, 2012. The mission was ingeniously designed and planned for a precision, no-room-for-error landing. The multiple stage procedure took 7 minutes from the top of the Martian atmosphere to the surface of the planet. [Note: View the awesome video "*Seven Minutes of Terror*" on YouTube.] Transmission signals from Mars to Earth take 14 minutes.

Curiosity was designed to assess if Mars was habitable: did it ever have an environment able to support small life forms such as microbes? The Gale Crater location was the focus of the exploration. The crater floor and the nearby mountain of layered rock and sediment inside the crater were prime targets. The record of the planet's climate is written in the rocks and soil – in their formation, structure and chemical composition. Curiosity's on-board laboratories are sensitive and sophisticated to study rocks, soil and geological settings, to assess what the environment was like in the past and to look for chemical building blocks of life.

The Rover has detected dry lake beds, evidence that Mars had an ancient wet past. Using gamma rays, it detected a huge amount of hydrogen, another indicator of water. And, in order for habitability, water is needed, as well as, a source of energy. The Rover also studied climate and geology (using Radio Carbon Dating) of the surface of Mars. Data is collected and analyzed by Rover's computers. Additionally, Curiosity can shoot lasers to vaporize a small portion and even drill holes on the surface. Then, the resulting spectra signature can be read to determine the rock's elementary composition. Curiosity has many analytical labs aboard. Here are just 2 of the labs, as an example: Sample Analysis at Mars (SAM): SAM analyzes organics and gases among other things. Chemistry and Mineralogy (CheMin): CheMin identifies and quantifies minerals present in rocks and soil. Of course, these and the other Rover instruments perform much more technical and detailed work.

Dr Milkovich went on to explain about the rover "tires" with "JPL" in Morse Code, high quality cameras and other instruments and their capabilities. Curiosity performed many experiments and analysis of Martian materials over the past 2 years, too many to mention here. But, scientists continue to analyze data coming in and they are able to surmise conclusions regarding habitability of Mars. For the future, the 2020 Mars rover project will have more advanced technology and be able to provide more data on our pathway to a manned mission to Mars.

Dr Sarah Milkovich's presentation was informative sprinkled with humor and insights. At the conclusion, she took some questions then ended her presentation.

Special thanks to Dr Milkovich for a wonderful and thought provoking presentation. And, thank you to all in attendance.

Respectfully submitted by Angie Guzman, MSSC Secretary

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NOMINATIONS ARE OPEN FOR OFFICERS AND DIRECTORS FOR 2015

As required by the Bylaws and Operating Rules, here are the nominees for 2015. The nominations are open if you would like to submit an additional candidate for any office. Make sure you have that person's permission before making the nomination. The election will be held at the December 12th meeting

President	Ann Meister
Vice-President	George Rossman
Secretary	Angie Guzman
Treasurer	Jim Kusely
CFMS Director	Jo Anna Ritchey
Directors 2015-2016	#1: Bruce Carter
	#2: Bob Housley
	#3: Leslie Ogg

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List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	February 20, 2015	Bethany L. Ehlmann: - Mineralogy of the Martian Surface
	March 13 2015	Denise Nelson: Museums of Europe
	April 10, 2015	Justin Zzyzx: Palos Verdes, Barite, Mines and History
	May 8, 2015	Gabriel Masosson: African Opals, Welo Opals from Ethiopia
Annual Banquet	January 10, 2015	Denise Nelson - Giant Amethyst Location: Coco's "Oak Tree Room", Pasadena
Micro Conference	January 30-31 2015	San Bernardino County Museum, Redlands, CA
Board Meeting	March 1, 2015	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.

Make your Reservation to attend today!

MSSC Banquet

Saturday, January 10, 2015

The cost of the Banquet is $38.00.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 7th, 2015.** Thereafter you will be responsible for paying $38.00 for each individual reservation regardless of attendance. It would be a shame to miss this event because you delayed making that reservation.

Email Rudy Lopez to make your reservation today!

programs@mineralsocal.org

If you haven't done so already, plan to pay your dues at the same time. Dues are officially due 1/1/2015.

The Program is: **The Mines of Minas Gerais *presented by Denise Nelson***

"The Mines of Minas Gerais:" a visit to several of the world's most fascinating gem regions in Brazil. Garnet, Aquamarine, Amethyst, Topaz, Emerald and more are covered in this colorful talk. A look into the mines and stories about the people and places of this beautiful country complete this informative and sparkly evening.

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

Items for the Silent Auction are always needed.
What no longer suits you may be a treasure to someone else!.

The deadline for reservations for the Banquet is Jan 7th!

Don't miss out on a great evening because you delayed contacting ***Rudy Lopez*** for a reservation.

Ann Meister says: *"Everyone is invited to join us and have a great time. This is our premiere social event of the season!"*

The Mineralogical Society of Southern California
Proudly Presents the 50th Pacific Micromount Conference
January 30 and 31, 2015 at the
San Bernardino County Museum
2024 Orange Tree Lane, Redlands, CA

Registration Fee is $15.00 before Conference, $20.00 at door.

FRIDAY, JANUARY 30

3:00-6:00 PM On-site REGISTRATION, greeting friends and microscope time
SALES TABLES open

6:00-7:00 Famous POTLUCK BUFFET Dinner

7:00-8:00 PM Georges Favreau: "The Thallium, Arsenic and Silver Minerals of Jas Roux in the French Alps---a Getchell-like Assemblage**"**

Contributed Talks And Member Photos

SATURDAY, JANUARY 31

8:00-9:00 AM Doors Open, On-site REGISTRATION. Setting up scopes, filling "GIVE-AWAY" and SALES TABLES, and greeting friends.

10:00 AM Welcome, Introductions and Special Announcements.

10:15 AM – Joe Marty: "Minerals of the Blue Lizard Mine and other Western Localities"

NOON LUNCH. Subway sandwiches served at Museum. (No cost)
1:30 PM VERBAL AUCTION, followed by silent auction of member donated materials.

3:15 PM – Paul Adam "Some Other Mineral Localities in Inyo County, CA"

6:00 PM: BUFFET DINNER Served at Museum.

7:00 PM: Contributed Talks And Member Photos

SUNDAY, February 1: Field Trip to a site to be determined

Friday night Potluck –Please bring an hors d'oeuvre, salad, hot dish, dessert, etc.
Saturday lunch – Subway sandwiches (No cost to attendees.)
Saturday night Buffet dinner is $5.00. Advance dinner reservations necessary.
(See Registration form included with this bulletin)

Conference Guidelines

Now is a very good time to make your advance registration for the 2015 Pacific Micromount Conference.

Registration: Please provide the names and home towns of all members of your party. We like to have a name-tag waiting for everyone. In addition to Conference registration, you will need to make a reservation if you plan to attend the delicious Saturday evening buffet dinner.

Nearby Motels

Redlands Motor Lodge, 1151 Arizona St.,
Redlands (Alabama off-ramp)
909-798-2432

Good Nite Inn, 1675 Industrial Park Ave.,
Redlands (Alabama off-ramp)
909-793-3723

Starlight Motel, 1371 W. Redlands Blvd., Redlands
(Alabama or Tennessee off-ramp)
909-792-3333

Super 8, 1160 Arizona St., Redlands
(Alabama off-ramp)
909-335-1612

Also, if you have an RV, a trailer, or van and are self-contained, you may camp at the outer edge of the Museum parking lot. Quite a few do this, and you will not be alone. (Use Registration form to let us know)

The San Bernardino County Natural History Museum is located just north of the 10 Freeway, at 2024 Orange Tree Lane, Redlands, California. (Take California Street exit and go north to Orange Tree Lane, then turn right to Museum Entrance.)

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Bob Bartsch Memorial Service:

There will be a memorial service for Bob Bartsch held on **Saturday, January 17, 2115 at 2PM at the McCurdy Nature Center located in the Eaton Canyon Recreation Area located at 1750 N. Altadena Dr. in Pasadena California 91150. Phone: 626 398-5420**

If you plan on attending it would be appreciated if you would let us know by email to Rock Currier

This message is being sent to some people in the mineral community who knew Bob, but by no means all of them. If you would care to pass this message on to others, feel free to do so. I know that all of you may not be able to attend. If you can't attend, we would encourage you to send us a message with stories about your remembrances of Bob, please do so and they will either read at the ceremony or made available to attendees to read.

Sadly yours, Rock Currier

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CFMS Director's Report, Visalia, CA

On November 8 2014 CFMS Director's met in Visalia at their semi-annual meeting to conduct the business of the CFMS. One of the first items was to elect the officer's for the next. Tony Fender of Pasadena Lapidary Society was elected to the position of Treasurer. If continues in the line, he will become the CFMS President in the future.

Our CFMS Past President, Marion Roberts, will be the next AFMS President.

We had two Scholarship Honorees: nominating Charles “Chuck” Boblenz from the Santa Clara Valley Gem and Mineral Society and Mike Humenik from the Santa Cruz Mineral and Gem. Both these Honorees held many offices within their club, and friendly and hard working. The CFMS is fortunate to have these men as members.

The Earth Science Studies reported that the two sessions (one week each) at Zzyzx and Camp Paradise were full for the first time. Zzyzx in found just East of Baker on Interstate 15 and Camp Paradise is in Northern California. If you get the opportunity to attend either you will be amazed at what you will learn and get to know the other wonderful/interesting people there. This is definitely an opportunity not to be missed.

Jo Anna Ritchey CFMS Director

With Knowledge Comes Appreciation

The UCLA Meteorite Gallery by Steve Hardinger

Meteorites are objects of wide fascination. They have been observed, collected, and studied by many, from rank amateur to scientific professional, for centuries (if not millennia). The oldest documented meteorite collection (if a single specimen can truly be a collection) is in the Shinto shrine of Suga Jinja, where the Nogata (Japan) meteorite is preserved.

Because of their broad interest, meteorites are found among most museums' natural science collections and are often the highlight of a visitor's museum trip. In January of 2014, the UCLA Meteorite Gallery opened at the University of California, Los Angeles (UCLA) main campus in Westwood, California. Given the proximity of the Gallery to my office (which is just down the hall in the Department of Chemistry & Biochemistry), I felt it imperative to visit the Gallery and share my experience with the MSSC Bulletin.

The UCLA Department of Earth & Space Sciences meteorite collection is the 5th largest collection of its type in the United States. It consists of nearly 3000 specimens total, representing 1500 different meteorites and related objects. The collection also includes the main masses of about 40 meteorites, and approximately 300 partial or complete type specimens (80 of these are from California). Most of the specimens have been collected in the last few decades from Mojave Desert playas. Samples include meteorites (ordinary and carbonaceous chondrites, irons, etc.) as well as related objects (tektites and desert glass). The collection even includes a Martian meteorite. Professor John Wasson, the collection co-director, has for three decades been interested in creating a public display. Despite traditionally limited academic funding, and using scrounged display cabinets, Wasson and Gallery co-director Dr. Alan Rubin have created a fine display.

Figure 1: The Clark Iron.

The Gallery is publically accessible, and occupies about 900 square feet in room 3697 of the Geology Building. When first entering the room, I was immediately drawn to the central exhibit: the Clark Iron, a complete, 357 pound iron meteorite, recovered from Diablo Canyon, Coconino County, Arizona and given to UCLA in 1934 (UCLA's first meteorite). Its texture and utter extra-worldliness begs exploration with camera and fingers (which is encouraged!). [Figure 1]

The gallery hosts about 100 labeled specimens distributed among seven LED-lit display cases. [Figure 2] The objects on display range from (what some might call) just ugly rocks to traditional but nonetheless beautiful, slabbed and etched meteorite examples. [Figure 3] Each case has its own meteoritic theme: chondrites, tektites, etc. Case 3 includes several backlit pallasite slabs that compete with the Clark Iron as the visual highlight of the Gallery. [Figure 4]

Figure 2: A typical Gallery display case, featuring LED illumination.

Figure 3: Slabbed and etched specimens from the Schlazer collection.

Figure 4: Backlit pallasites from the Schlazer collection are a visual highlight of the Gallery.

Case 4 houses examples of brecciation and shock effects, a subject not found in other meteorite displays. Another case focuses on tektites and desert glass. Case 6 (my favorite) features meteorites from California as well as 'meteorwrongs', objects the public have found and mistaken for authentic meteorites. The display collection also includes examples of recent falls, especially from California (this is UCLA after all). However, an authenticated Chelyabinsk specimen is not yet part of the collection (any donors out there?).

Figure 5: Martian basalt and lunar impact melt samples.

Figure 6: A typical QR code, which can be scanned for more information about the case

The final case features melted meteorite rocks from near-surface regions plus small examples of once-molten rocks from the Moon and Mars. [Figure 5]

Each case also features a QR code (two-dimensional barcode) that can be scanned with a smartphone to access additional information. [Figure 6]

Along the walls and on stands in the center of the Gallery are numerous posters explaining various aspects of meteoritic science. [Figure 7] Examples include Classification of Meteorites, Non-Mass-Dependent Fraction of Oxygen Isotopes, and Effects of Thermal Metamorphism on Ordinary Chondrites. Along the west wall are three backscattered electron images of meteorite thin sections. (These would make excellent jigsaw puzzle images for the truly insane.) While these posters generally exercise the brain more than the meteorite specimens, their presence earns kudos for the Gallery from this scientifically literate visitor.

Several useful handouts are available as well, including Descriptions of Display Cases in the Meteorite Gallery (a Gallery guided tour, of sorts), Highlights of the UCLA Meteorite Gallery (covers the scientific basis of what you're going to see), a Teacher's Guide to the UCLA Meteorite Gallery, Meteorite Gallery Highlights for Grade Schools, and a nifty pamphlet on How to Recognize Meteorites.

While exploring the Gallery I found it useful to work back and forth between the cases, posters, and handouts, sometimes visiting each several times, to grasp the overall picture. This is not because of any fault in the Gallery's organization, but rather the Gallery's excitation of my detailed fascination the earth sciences/chemistry boundary. (Professor Rubin stated that the Gallery's pedagogical goal is cosmochemical. This goal has been nicely met.)

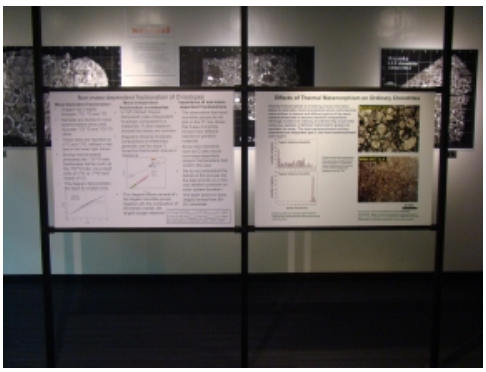

Figure 7: A few of the many posters found in the Gallery.

As is typical for collections of this type, the material not on display is inaccessible by the general public (who but a true aficionado want to see rocks in bags in boxes in a room full of cabinets?), but may be viewed and perhaps samples possibly obtained for legitimate scholarly purposes. Contact Professor Rubin (aerubin@ucla.edu) with such requests.

Future plans for the Gallery are exciting: videos, microscopes with thin sections, and more specialized display cases are envisioned.

While in the UCLA Geology Building, take the time to stroll around and enjoy the thirty-plus cases filled with minerals, fossils, and other geological items. Explore dozens of posters, from general interest to geoscience research topics, scattered around the building. A small paleontology exhibit featuring a full-size *T. rex* skull (fiberglass replica), just outside the Gallery entrance, is pretty cool. [Figure 8]

Figure 8: A T. rex skull replica and other fossils on display near the Gallery entrance.

The Gallery's hours are Monday through Friday, 9:00 AM to 4:00 PM (except federal holidays) and Sunday, 1:00 PM to 4:00 PM. On Sunday one or more docents are present, from volunteers and graduate students to Professors Rubin and Wasson. (The docent may deliver a lecture in The Gallery as well.) There is no entrance fee. Parking is convenient (in Structure 2 right across the street) but not inexpensive ($11 per day). Food is easily available many places on campus. Plan at least an hour for your visit.

Even though my main interest in geological sciences is chemical/mineralogical and not meteoritic, I found the Gallery to be simultaneously informative and entertaining. It has a good balance between scientific, pedagogical, and aesthetic factors. The UCLA Meteorite Gallery is definitely worth a visit for persons of any meteorite knowledge level. More information can be found at The Gallery's web site: http://www.meteorites.ucla.edu/.

I would like to thank Professor Alan Rubin for his patience with my many questions during this project.

Reprinted with permission from the original appearance in the October 2014 issue of Mineral News.

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Featured Mineral: Forsterite (Var: **Peridot**)

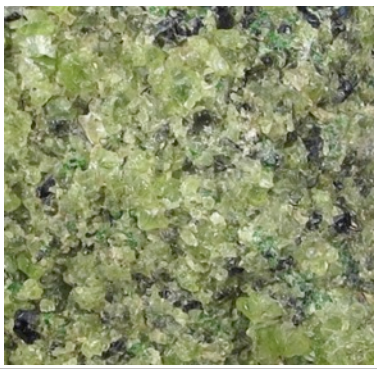
Formula: Mg_2SiO_4

Crystal System: Orthorhombic

Name: Named in 1824 by Serve-Dieu Abailard "Armand" Lévy in honor of Adolarius Jacob Forster [April 6, 1739 Grossbreitenbach, Thuringia, Germany - May, 1806 St. Petersburg, Russia], English mineral collector and mineral dealer.

irocks.com photo

Forsterite (Var: **Peridot**) **:** Mg_2SiO_4
Locality: Sapat Gali (Soppat; Suppat; Sumpat; Sumput), Naran, Kaghan Valley, Mansehra District, Khyber Pakhtunkhwa (North-West Frontier Province), Pakistan
2.6 x 2.4 x 1.6 cm



irocks.com photo

Forsterite (Var: **Peridot**) **:** Mg_2SiO_4
Locality: San Carlos, San Carlos Indian Reservation, Gila Co., Arizona, USA
22.9 cm x 12 cm x 11.4 cm

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	

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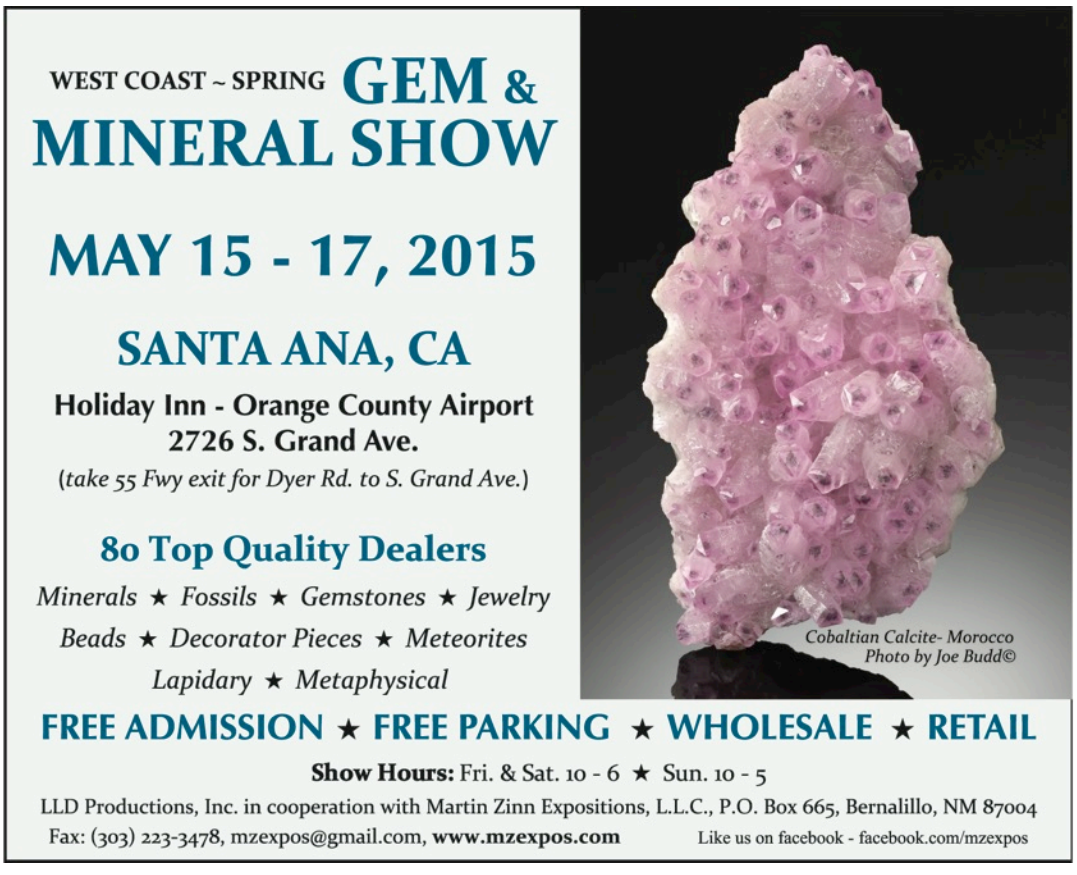
MSSC Advertisement Policy:
Mineral-related ads are allowable in the MSSC bulletin. Below is the price per month

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**



Calendar of Events:

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

DECEMBER 2014

December 6 - 7: BARSTOW, CA
Mojave Desert Gem & Mineral Society
Cora Harper Community Center
841 Barstow Road (North of I-15)
Hours: 10 - 5 daily

December 12 - 14: RIALTO, CA
Orange Belt Mineralogical Society
Across Street from Rialto City Hall
105 South Palm Avenue
Hours: Sat 10 - 5; Sun 10 - 3
Website: OBMSrocks.yolasite.com

JANUARY 2015

No Shows in Southern CA in January

FEBRUARY 2015

February 13 - 22: INDIO, CA
San Gorgonio Mineral & Gem Society, Cabazon
Riverside County Fair & National Date Festival
82-503 Highway 11
Hours: 10 - 10 daily

February 27 - March 8, IMPERIAL, CA
Imperial Valley Gem & Mineral Society
Imperial Valley Expo
200 East 2nd Street
Hours: S,S: noon - 10 pm; M-F:, 4 pm - 10 pm
Website: www.IVGMS.org

MARCH 2015

March 7 - 8: ARCADIA, CA
Monrovia Rockhounds
Los Angeles Arboretum
301 Baldwin Avenue
Hours: 9:00 - 4:30 daily

March 7 - 8: 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 14 - 15: SAN MARINO, CA
Pasadena Lapidary Society
San Marino Masonic Center
3130 Huntington Drive
Hours: Sat 10 - 6, Sun 10 - 5
Website: www.pasadenalapidarysociety.org

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Did You Know: Pseudomorph, or False Form:

When a crystal changes chemically or structurally yet keeps the shape of the original , it is called a pseudomorph. It looks like a crystal of one species, but is composed of another. Very common in the copper carbonates such as malachite and azurite.
Pseudomorphs also occur when one species is replaced by another which is in no way related chemically. Copper after Aragonite is an example

Malachite : $Cu_2(CO_3)(OH)_2$
Locality: Bisbee, Warren District, Mule Mts, Cochise Co., Arizona, USA 4.8 cm x 2.3 cm x 1.2 cm

An exquisite intergrown pair of doubly-terminated malachite pseudomorphs after sharp tabular azurite crystals

irocks.com photo

irocks.com photo

Copper : Cu
Locality: Corocoro, Pacajes Province, La Paz Department, Bolivia
1.9 x 1.9 x 1.6 cm

A sharp thumbnail pseudomorph of copper after aragonite with a bit of powder-blue chrysocolla as a nice accent

2014 MSSC Officers:

OFFICERS		
President	Ann Meister	president@mineralsocal.org
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2013--2014	Leslie Ogg	
2014-2015	Pat Caplette	
2014-2015	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*

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

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

To:

With Knowledge Comes Appreciation

Your MSSC Bulletin Is Here!

Advance Registration Form

PACIFIC MICROMOUNT CONFERENCE

January 30, 31, 2015 (Field Trip on Sunday, Feb. 1)

Registration: $15.00 per person by mail, $20.00 at the door

No. of people _____ **Amount $_____**

Names & Home Towns

_____
_____
_____
_____

Friday Night Potluck Dinner

Bring your appetizer, salad, main dish, or dessert for an old-fashioned Potluck dinner. Your contribution will assure the success of the Potluck! (We will have the use of the kitchen facilities.)

Saturday Lunch (No cost to participants)

Subway sandwiches will be ordered based on your advance selection

Turkey (__) Beef (__) Ham (__) Veggie (__)

Saturday Night Buffet Dinner

$5.00 per person – number of people attending: ____ **Amount $_____**

Field Trip on Sunday

Are you interested in attending the field trip? Yes ___ No ___

Number of participants ____

Parking – Do you plan to park your self-contained RV, trailer or van overnight at the Museum? Yes __ No __

Total Amount $_____

Send Payment to:

PMC Committee Chair
Robert Housley
210 S Catalina Ave. #3
Pasadena CA 91106

Make check payable to MSSC

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I plan on presenting a short contributed talk (_ _)

The topic will be: _____ Approximate length of time _____