Bulletin of the Mineralogical Society of Southern California

Volume 95 Number 8 – August, 2022

The 1,003rd meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting

August 12th, 2022 at 7:30 P.M.

Program **: Collecting at the Red Cloud Mines of Lincoln County, NEW MEXICO**". Presented by Scott Braley

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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: : "Collecting at the Red Cloud Mines of Lincoln County, NEW MEXICO".

Presented by Scott Braley

Scott will be discussing the Red Cloud mines of Lincoln County, N.M. Two small and distinct mines a few hundred feet apart in the Gallinas Mountains, within the Cibola National Forest. Though very close together, they tapped into separate REE-Fluorite hydrothermal veins with distinct characteristics. The Red Cloud Fluorite mine: Which operated during for a short time after World War II, presents interesting micro fluorites and some rare earth minerals. The Red Cloud Copper mine, operated intermittently over a period of about 60years, yields beautiful vanadinite, wulfenite, mimetite, cerussite, and more. Both have been only sparsely written about in the mineralogical literature, so are only lightly visited. The Gallinas Mountains are home to over 80 small mines and prospects, and are currently under investigation as a potential source of rare earth minerals. The Red Cloud Fluorite mine presents interesting micro fluorites and some rare earth minerals, while the Red Cloud Copper mine yields beautiful vanadinite, wulfenite, mimetite, cerussite, and more. Both have been only sparsely written about in the mineralogical literature, so are only lightly visited.

Scott has been collecting minerals since childhood, with a focus on Micromineral and photography for the last 15 years. After retiring from the Air Force, he completed a Ph.D. and is now a professor at a small college in northern New Mexico. With the recent limitations on travel, he spent much of the last year investigating some less well-known Micromineral localities in his area of New Mexico.

How to Join our ZOOM Meetings by Rudy Lopez

MSSC members are automatically included in the invite list each month.

For non MSSC Members who want to join this meeting. You must respond to our Programs chair, Rudy Lopez at programs@mineralsocal.org no later than Tuesday August 9, 2022. Please include "August ZOOM Meeting" in the subject line of your response. This response date will allow time for us to send you the information needed to participate in the ZOOM meeting and will allow time to get everything organized.

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From the Editor: Linda Elsnau

First of all, let me apologise for the incorrect program shown in last month's Bulletin. Our program chair had a last minute speaker cancellation and in the furious work to find a new speaker, he forgot to let me know. He did send out a change of speaker announcement to all of our email bulletin members, but the listing in the Bulletin was incorrect. If you were unable to watch the program on Zoom, be sure to check out the Minutes of the last meeting to get the abbreviated program presented by Mike Sanders on the Blanchard Mine.

If you love Red Cloud Wulfenites, I'm sure you will enjoy this month's program about the Red Cloud Mine.

We are at a critical point in the life of MSSC. Please see the special announcement on page 13 and absolutely do volunteer to help run this great organization or it may cease to exist!

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FROM THE PRESIDENT: Mineral Groups. Installment 3, "The Pyroxenes" by George Rossman

Previously, we talked about the group of minerals known as the amphiboles. Now we will discuss the group of minerals known as the pyroxenes. Pyroxenes are relatively common minerals found in igneous and metamorphic rocks but not often found in "nice" crystals.

There are two major groups of pyroxenes: the calcic pyroxenes that contain calcium as an important chemical component and the sodic pyroxenes that have sodium as an important component. This time, we will focus on the more common calcic pyroxenes.

First, we need to discuss what constitutes a pyroxene. A pyroxene is a chain silicate. That means the backbone of the structure consists of chains of silica tetrahedra (SiO_4 tetrahedra) that run the length of the crystal's *c*-axis. To be a pyroxene, the structure must repeat approximately every 5.2 Ångstroms**. (Figure 1).** This is in contrast to amphiboles which we discussed last month whose structure contains pairs of chains that join together (called double chains) **(Figure 2).**

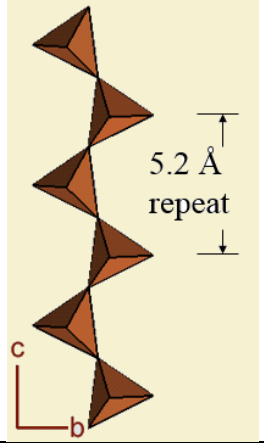

Figure 1. The pyroxene single chain of silica tetrahedra.

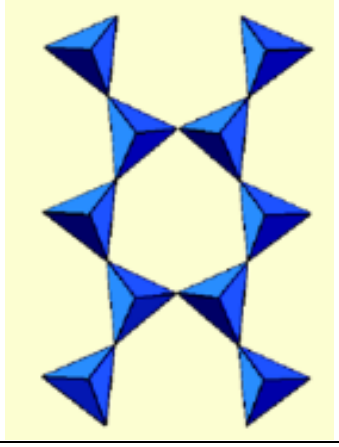

Figure 2 The amphibole double chain of silica tetrahedra.

Chemically, the calcic pyroxenes are mostly composed of calcium, magnesium, and iron ions along with the silicate chains. We can draw a triangular diagram with Ca, Mg and Fe on the vertices **(Figure 3)** that covers all possible compositions. The closer you get to a vertex, the higher is the concentration of the element represented by the chemical symbol on the vertex. We find that any mineral on the composition diagram that has more than 50% calcium is not a pyroxene but rather has a different chain structure. So, we have to deal with 4 'end-member" compositions. The calcium-magnesium pyroxene is diopside, the calcium-iron one is hedenbergite. The purely magnesium one is clinoenstatite and the purely iron one is clinoferrosilite. All of these belong to the monoclinic crystal system.

Let's look at each of these four minerals. The first is diopside. It has the chemical

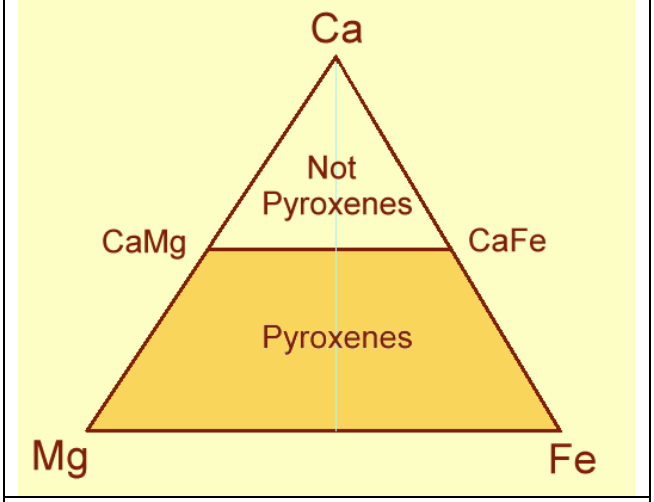

Figure 3. The calcic pyroxene composition diagram

formula $CaMgSi_2O_6$. It would be colorless if it had the ideal endmember formula. But commonly it is green **(Figures 4-6)**. because it contains some iron as a result of a partial solid solution with hedenbergite.

Figure 4. Diopside from Cascade Canyon, San Bernardino County, CA
Photo Credit: Mark Garcia

Figure 5. Diopside crystal from Dekalb, St. Lawrence County, NY.
Photo Credit: Mark Garcia

Figure 6. Diopside crystal from Outokumpu, Finland.
Photo Credit: Mark Garcia

Hedenbergite has the chemical formula $CaFeSi_2O_6$. Ideally, the iron is in the 2+ oxidation state. Hedenbergite is not nearly as common as diopside. Usually, it is a dark colored mineral **(Figures 7-9)** because of its iron content and because it will also have some iron in the 3+ oxidation state.

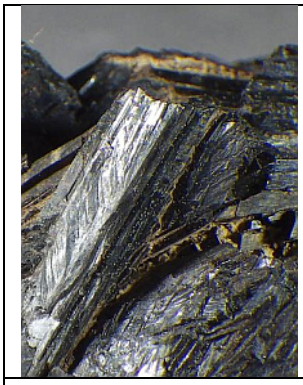

Figure 7. Hedenbergite from South Mountain, Idaho.
Photo Credit: Mark Garcia

Figure 8. Hedenbergite from Shigar Valley, Pakistan.
Photo Credit: Mark Garcia

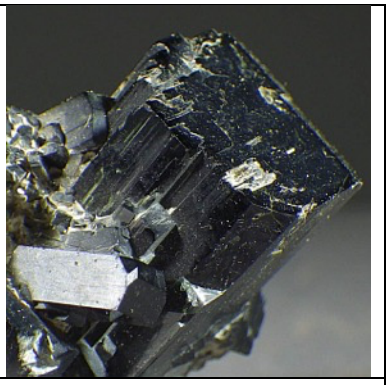

Figure 9. Hedenbergite from Nordmark, Sweden.
Photo Credit: Mark Garcia

Clinoenstatite has the chemical formula $Mg_2S_2O_6$. It is not particularly common, but it is often found in meteorites. It usually has some iron in it which commonly gives it a dark color **(Figure 10).** Even less common is the iron endmember, clinoferrosilite. Its chemical formula is $Fe_2S_2O_6$. I don't even have a picture of it to show.

One might think that it would be logical to divide the quadrilateral of calcic pyroxene compositions vertically and horizontally in half and declare four mineral species that occupy the four quadrants of the quadrilateral such as shown in **Figure 11**. But, no, it is not that simple. We are tied to classification ideas that were generated more than a century ago before systematic understanding of the pyroxenes was firmly established.

Figure 10. Clinoenstatite from Shigar Valley, Pakistan
Photo Credit: Mark Garcia

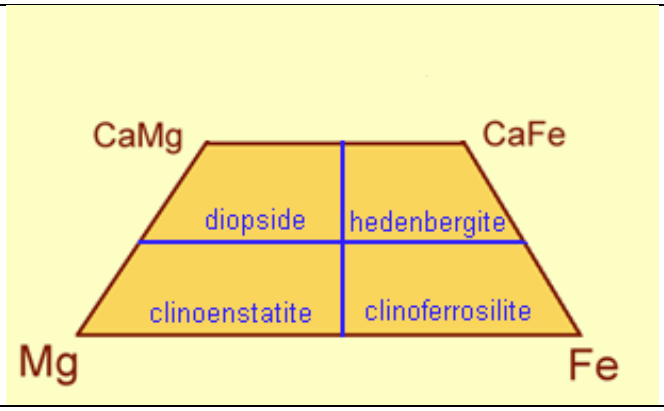

Figure 11. A rational way to classify the calcic pyroxenes.

Instead, in addition to diopside, hedenbergite, clinoenstatite and clinoferosilite, we have two intermediate species, augite, and pigeonite. **Figure 12** shows the accepted classification of these pyroxene species. We have augite and pigeonite. Augite is a calcium-rich pyroxene and pigeonite is relatively calcium-poor. These names come from petrographic studies of rocks where pyroxenes of these compositions are commonly encountered.

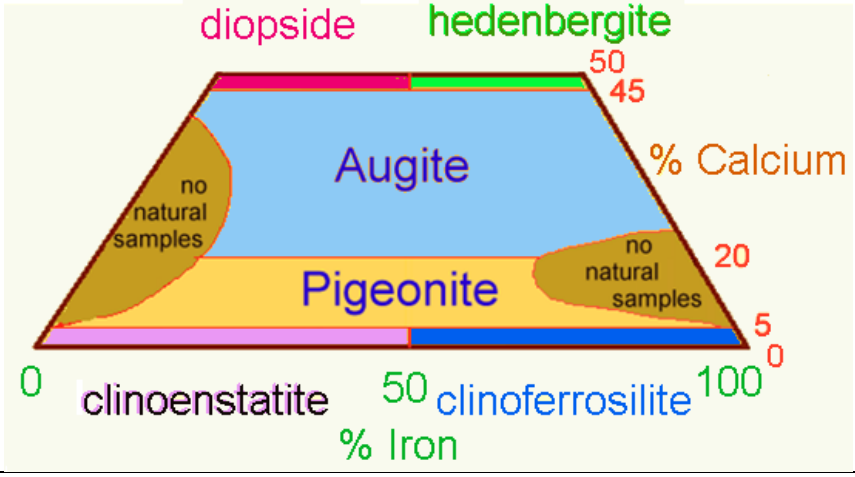

Figure 12. Currently accepted classification of the calcic pyroxenes

The name, augite, comes from a Greek work for brightness. It refers to the luster seen in the cleavage plane, and seen occasionally, in the exterior of the crystal, itself. It is nearly always a black mineral due the fact that it contains both Fe^{2+} and Fe^{3+} **(Figures 13-15).** Augite can also contain aluminum, titanium and sodium. We can write a general chemical formula for it: $(Ca,Na)(Mg,Fe,Al,Ti)(Si,Al)_2O_6$.

Figure 13. Augite from Lukov, Czech Republic.
Photo Credit: Mark Garcia

Figure 14. Twinned augite crystal from Tanzania.
Photo Credit: Mark Garcia

Figure 15. A mass of augite from Bancroft, Ontario, Canada.
Photo Credit: Mark Garcia

Pigeonite **(Figures 16,17)** was named after a locality where it was first described in extreme NE Minnesota, namely, Pigeon Point. It has a lower concentration of calcium than augite. A general formula for pigeonite is: (Ca,Mg,Fe)(Mg,Fe)Si_2O_6. It is used in petrology to establish the crystallization temperature of magma based on its Fe/Mg ratio. However, over time at low temperatures, it is unstable and breaks down into augite and orthorhombic pyroxenes.

Figure 16. Pigeonite from Silverton, CO.
Photo Credit: Mark Garcia

Figure 17. Pigeonite from Loudoun County, VA.
Photo Credit: Mark Garcia

The final thing to note is that while the phases discussed above all belong to the monoclinic crystal system, there are two orthorhombic pyroxene species worth mentioning: enstatite ($Mg_2Si_2O_6$) and ferrosilite ($Fe_2Si_2O_6$), the orthorhombic counterparts of clinoenstatite and clinoferrosilite. Only enstatite is commonly encountered and, in fact, can be found in nice crystals **(Figures 18-19)** although, it is commonly found in masses rather than single crystals **(Figure 20).**

Figure 18. Enstatite from Mogok, Myanmar.
Photo Credit: Mark Garcia

Figure 19. Enstatite from Kilosa, Tanzania.
Photo Credit: Mark Garcia

Figure 20. Enstatite from Riverside Co. CA.
Photo Credit: Mark Garcia

Among the calcic clinopyroxenes, only diopside and augite are commonly found in nice crystals. I have found several nice augite crystals in volcanic rocks in California and Arizona. How many do you have in your collections?

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MINUTES of the July 8, 2022 ZOOM Meeting

Call to Order (Dr. Rossman):

President Dr. George Rossman, Ph.D. called the meeting to order at 7:34 p.m. It was the 1,003rd Membership Meeting and 26th via ZOOM conferencing of the Mineralogical Society of Southern California (MSSC). *[Secy Note: It was MSSC's 9th ZOOM protocol under their license.]*

President's Remarks (Rossman)

Dr. Rossman reports that the International Mineralogical Association (IMA) has announced that there are currently 5,828 valid mineral species. Two of the new ones are hanahanite, a hydrated

zinc sulfate and haywoodite, a hydrated lead zinc sulfate. What's interesting here is that these mineral species were characterized by two local fellows, Tony Kampf and Chi Ma.

Kampf is distinguished for his expertise in mineral characterizations, now numbering over 328, most approved mineral characterizations in the world! He is Curator Emeritus of LA County Museum of Natural History and a MSSC member. Quite an accomplishment, Tony! We're very proud of you.

Chi Ma is Director of Caltech's Analytical Facility. Ma has several characterizations under his belt, as well. Congratulations, gentlemen, and thank you for your many contributions to the mineral world.

Regular Business (Rossman)

Approval of Minutes: Rossman asked if there were any additions or corrections to the Membership Meeting Minutes of June 10, 2022. Hearing none, he asked for a show of hands to approve the minutes; he then asked for a show of hands if anyone disapproved (none). Seeing no objections Rossman stated the Minutes were approved as published in the Bulletin of July 2022.

Announcements and Reports

1. Program Chair: Rudy Lopez reported recent changes in speaker line up due to drop outs and other unexpected events. Going forward, there should not be any changes through March 2023. Keep in mind, life happens and something may come up. However, we have a good line up of speakers, some who have presented in the past and some new people all who have interesting topics. Apologies to Bulletin Editor for those latest late changes. We have a back-up plan for the future, if necessary.

2. Fieldtrip Report (Marek Chorazewicz): Marek reports that there are no dates yet for the fall field trips to San Benito Mountains, Tecopa and Barstow.

3. Other Announcements

- Ahni Dodge: Informal dinner 7/30/22, 5pm at Kathleen's in Pasadena mineral talk, show and tell, all welcome. E-mail Ahni timely if you can join ahni@me.com ;

- **Ken Rogers:** (a) Culver City Rock and Mineral Club having big show 7/16-7/17 at Veteran's Memorial Auditorium, entry is free, kid zone, lots of goodies; (b) guest speaker at nest CCRM Club is Rudy Lopez presenting Micro Mounts 7:30pm 7/11/22 via ZOOM.

- **Mike Sanders**: (a) New Mexico Mineral Symposium is the 2nd weekend in November at New Mexico Tech in Socorro. Just added is Field Trip to Blanchard Mine on Thursday to start off the weekend! The event is sponsored by NM Bureau of Geology and Mineral Resources. This renown event started 42 years ago; (b) Mineral Museum Curator and Director Virgil Lueth is retiring. The new hire starting in September is John Rakovan from Miami of Ohio University.

- **Barb** announced the passing of Leza Junnila (1943-2022), of interest to those who have gone up to the Clear Creek area. The Fresno Bee has an obituary full of her life story. And, she said the New Mexico Mineral Symposium (NMMS) is a really good event. Carolyn Seitz added that she has attended NMMS for the last 22 years.

- **Angie Guzman** reminds about MSSC Board meeting on Sunday, July 10, 1pm, ZOOM and says to check the Internet for New Mexico Mineral Symposium 2022 for details.

Program

Rudy Lopez introduced the night's speaker, Mike Sanders. Mike is one of the owners of the mining claims for the Blanchard mines in New Mexico. Mike will talk about the reclamation and mineral specimen recovery project completed at the Blanchard Mine Socorro County, New Mexico. The project took place in July 2013. They found a lot of material, mostly fluorite, really nice pieces that paid for their adventure. Mike is a geologist; he has been in the mining business for about 12 years.

Mike begins by saying that he and his 2 claim partners, Brian Huntsman and Ray DeMark, began their project in July 2013. The project was "Mine Reclamation and Mineral Specimen Recovery Operation at the Blanchard Mine". The Blanchard Mine is in the Hansonburg District of Socorro County in west central New Mexico. The mine is in the Sierra Oscura Mountain Range (north, south orientation) near a little wide spot in the road called Bingham. Sometimes you may see specimens labeled as Bingham.

There are 3 primary mines in the area: the Royal Flush in the north, Mex Tex is in the middle and the Blanchard, including the Portales adit, is in the southern portion. The mountain range has deep seated, east side riff faults tapping into underground hydrothermal fluids. Mineralization mostly consists of baryte, fluorite and galena, minerals that first attracted the miners in the old days. Now, however, there are about 55 mineral species including copper, lead sulfate and some carbonates, to name a few. The host rock is 300mya Pennsylvanian. The limestone mineral deposits are far younger than that, probably 15mya.

Mike gives a brief history of the Portales Tunnel (adit). Portales opened in 1916. During WWI and till 1950's there was sporadic ore miners. Then in the 1950's to 1960's, Ora Blanchard and her husband renamed, worked and controlled the mine. After he passed, she continued to live out there in a tar paper shack, but she would allow folks to go out there and collect material then she'd extract some sort of reimbursement for the privilege (take some of their specimens or a fee).

In 1960's Tony Otero did some serious mining. From then to 2013 several collectors had been out there, in fact, there was a near fatality back in 1988. In 2009 the New Mexico Abandoned Mine Land (AML) was on site but was not a high priority. In 2012, no AML action; claim owners decided to close Portales themselves. Mike sprinkles his presentation with fine photos (it is obvious there was/is no water in this remote area), maps and interesting side stories.

The Project goals were to close/backfill Portales adit, recover expenses through mineral specimen recovery, apply for appropriate permits, partner up with Mark Kielbaso and Bruce Barlow – now they were five. Ultimately in Feb 2013, NM Mining and Mineral Division approved the permits. Finally, the project gets under way on July 8, 2013 and completes in September 2013 with the BLM full refund for the reclamation bond they had to acquire for the project.

The group had a well-organized staging area equipped with all the comforts and plenty of packing crates and paper for mineral specimens. Water was brought in, as well as propane for

cooking and, yep, you guessed it – they had a shower to wash off the long day's dirt and dust. Oh, and don't forget the hand tools, gasoline for the power ones and all the rest. The planning stage was well thought out and a success!

Speaking of tools, WOW, there was an excavator, in fact, they rented 2 of them to expedite the job safely. The photos are awesome. They show how the excavation was carried out. Zap! Mike then showed a beautiful cube, unusually colored fluorite "dug out" by a 14" gas powered saw. In their process, they ran across small vugs of calcite mineral drips measuring about 3", and stalagmites of beautiful green (7cm). In one of the photos, partner Brian stands beside a 3' piece covered with gorgeous fluorite cubes and calcite.

The team used the excavators to load materials for packing at the staging area. Boxes and boxes were waiting for the specimens to be wrapped for transport and placed in their temporary homes. "Divvy Day" came and the specimens were divided according to an undisclosed plan. Specimens included striking blue fluorite on wonderful snowy white quartz, deep purple fluorite with tiny bits of wulfenite, a pale green cubic fluorite, then the fluorite with galena and calcite with a bit of rust (iron) color dabbing the piece. The baryte specimens are awesome and the grains of wulfenite scattered on quartz with pink fluorite is simply beautiful. Mike showed wonderful photos including a 3cm galena crystal (not collected during this project but from Blanchard) that had been altered and has anglesite, linarite and has micro cerussite crystals, an absolutely stunning specimen. Overall, the Blanchard is noted for spectacular blue fluorite ("Blanchard Blue") associated with galena, a high-quality mineral, as well as some of the largest know linarite crystals. Mike says the Hansonburg District, as far as he knows, is the only place in the world where linarite appears on galena. Other photos he showed were of a copper sulfate, altered galena cube and a beautiful galena cube 10cm high (from Mex Tex Mine collected 1980's). The photos displayed by Mike, in his presentation, were taken by micro-mineral photographer Michael Michayluk (Las Cruces) and Erin Delvinthal (Farmington) both of whose shots were absolutely crisp and beautiful.

Mike played a short video of the excavator's workings to give us a taste of the work that was done. By the way, the machines were trucked in close to the mine then off-loaded by the rental firm. Then the partners (miners) operated the machines and did all the work. In the video, Mike showed the hole (on east wall) that used to be the crawl space entrance. It's hard to imagine that was the way in back then. The video demonstrated a typical day out in the field. WOW, lots of work, digging and mucking, but the guy's lovin' it. Galena, calcite, fluorite, quartz…crystals hanging in the holes and on the edge of the (now) exterior wall…what a site!

A couple of visitors and family members stopped by to see the progress. Mike said it was nice to have the company and the help.

As to cost of the operation plus a pretty nice profit for each, they were able to walk away and use the money for whatever they wanted to do. Mike said it really worked out well.

He said it was comfortable working out there, monsoon season and all (mid-July). The beauty of being on top of the mountain, watching the distant thunderstorms roll across the plains below was an amazing experience. Evening time was relaxing, especially after washing all that dirt off from the day's work. They even saw a few critters, like a vinegarroon which is a crawling hard shelled body arachnid (flat body, 8 legs, pair of claws and whip tail), lizards and a shallow

pool tadpole shrimp (looks like a horseshoe crab) that lays eggs and when the water body dries, the eggs go dormant until the water body gets more water (thundershower or other event). Interesting this creature is way out here, so far from a lake or ocean.

There were quite a lot of questions about Blanchard minerals, the project workings and many other tidbits. By the way, all the photos and Mike's expertise about mining works were fabulous. Thank you, Mike. And, for more information about self-collected specimens, check out Mineralogical Record's May-June 2022 supplement, EUREKA! Self-Collected Minerals. Mike and some of his partners are included in the supplement.

Adjournment

There being no further business, the meeting was adjourned at 8:53pm; the ZOOM was left open for additional questions and discussion.

Attend next month's ZOOM presentation, you won't regret it. Contact our Program and Education Chair, Rudy Lopez. Check the website or Bulletin for information to get on the invitation list if you are not a member.

Respectfully submitted, Angie Guzman, MSSC Secretary

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List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	**ZOOM** Sept. 9, 2022	Wes Andree; "JMDC: A gem of the Inland Empire
	ZOOM Oct 14, 2022	Leyla Namazie: The structural deformation and evolution of Terranes in the North American Western Cordillera using Paleomagnetism. Undergraduate Geophysics major at UC Berkeley
	ZOOM Nov.11, 2022	Aaron Celestian – TBD
	ZOOM Dec 9, 2022	Peter Goetz: - Beautiful Opal, Identification and Internet Opal
Board Meeting	**ZOOM** TBA	ZOOM at 1:00 PM
Field Trip	TBA	No Field Trips Planned at this Time

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

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The Ride Share Listing is being temporarily discontinued until such time as MSSC starts holding in-person meetings again.

With Knowledge Comes Appreciation

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OTHER FREE THINGS TO DO...by Ann Meister

The **Watson Lecture Series at Caltech is on hiatus until the Fall semester.** Stay tuned until October! Find past Watson Lectures on Caltech's YouTube channel.

The **Von Kármán Lecture** is on Thursday, **August 18** at 7:00 PM. Available live on YouTube at NASA Jet Propulsion Laboratory - YouTube. The speaker is Suzanne Dodd, Voyager Project Manager, NASA/JPL. The title of the presentation is **"Voyager – 45 Years in Space."** As the twin Voyager spacecraft approach their 45th anniversary, we take a look at where the mission has been, what they've taught us, and where they go from

here. In this conversation with Suzanne Dodd, Voyager Project Manager, we'll discuss how Voyager came to be, highlight some of the major discoveries, and hear stories about this mission that has captured the public's attention for years.

The **UCLA Meteorite Gallery** has reopened. Check the website for hours. The monthly lecture will be presented on Sunday, **August 21**. The speaker is Dr. Alan Rubin, University of California, Los Angeles. The title is **"The Road to Recognition."** Three main difficulties naturalists in the Late 18th and Early 19th Centuries had with accepting the notion that rocks fell from the sky were that (a) meteorite falls are localized events, generally unwitnessed by professional scientists; (b) mixed in with reports of falling rocks were fabulous accounts of falling masses of blood, flesh, milk, gelatin, and other substances; and (c) the phenomenon of falling rocks could neither be predicted nor verified by experiment. Five advances leading to the acceptance of meteorites were (a) Ernst Chladni's 1794 treatise linking meteors, fireballs, and falling rocks; (b) meteor observations conducted in 1798 showing the high altitudes and enormous velocities of their meteoroid progenitors; (c) a spate of several widely witnessed meteorite falls between 1794 and 1807 in Europe, India, and America; (d) chemical analyses of several meteorites by Edward Charles Howard in 1802, showing all contained nickel (which is rare in the Earth's crust); and (e) the discoveries of four asteroids between 1801 and 1807, providing a plausible extraterrestrial source for meteorites. This is a pre-recorded lecture. It will be available on YouTube UCLA Meteorite Collection & Gallery - YouTube on August 21 and will be available indefinitely. There is no registration necessary. Visit the website and check on events and videos and other neat things about meteorites, go to https://meteorites.ucla.edu

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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 13781 Alderwood Lane, #22-J, Seal Beach, CA 90740

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Calendar of Events:

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

August 5-7, 2022, Nipomo, CA
Orcutt Mineral Society
Nipomo High School, 525 N. Thompson Ave.,
Nipomo, CA 93444
54th Annual Rainbow of Gems Show & Sale – "OMS Rocks the Central Coast"
Hours: Friday & Saturday 10 AM – 5 PM,
Sunday 10 AM – 4 PM
Website: http://omsinc.org

August 20-21, 2022 – Arcadia, CA
Pasadena Lapidary Society
"Inspiration Unearthed", 62nd Annual Tournament of Gems
Arcadia Masonic Center, 50 W. Duarte Rd., Arcadia
Hours: Sat. 10 AM- 6 PM, Sun. 10 AM – 5 PM
Website: https://pasadenalapidary.org/

August 20-21, 2022 – Tehachapi, CA
Tehachapi Valley Gem and Mineral Show
500 East "F" Street, Tehachapi, CA
Hours: 9 AM – 5 PM
Rocks, Minerals, Fossils, Beads, Gifts, Collectables, Gemstones and Jewelry
Website: http://tvgms.org

September 24-25, 2022 – San Luis Obispo, CA
San Luis Obispo Gem and Mineral Club
San Luis Obispo Veterans Memorial Building, 801 Grand Ave., San Luis Obispo, CA
Hours both days: 10 AM – 5 PM
Website: http://www.slogem.org/show.htm

September 24-25, 2022 – Long Beach
Long Beach Mineral and Gem Society
Gems on the Hill, Annual Gem & Mineral Show
Signal Hill Public Library, Signal Hill, CA 90755-
Terrace and Community Room
Hours: Saturday 10 AM – 5 PM, Sunday 10 AM – 4 PM
Free event, Children's activities
Website: http://www.facebook.com/LBMGS

October 9, 2022 – Fallbrook, CA
Fallbrook Gem and Mineral Society
Fall Festival of Gems & Minerals
123 W. Alvarado Street, Fallbrook CA 92028
Hours: 9 AM-4 PM
Website: http://www.fgms.org

October 15, 2022 – West Hills, CA
Woodland Hills Rock Chippers
First Methodist Church, 22770 Sherman Way, West Hills, CA 91204
Hours: 10 AM – 5 PM
Website: http://www.rockchippers.org

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Featured Mineral: **Spinel** **Formula:** $MgAl_2O_4$

Crystal System: Isometric

Color: Black, blue, red, violet, green, brown, pink.

Name: Named in 1779 by Jean Demeste from Latin "spinella", little thorn, alluding to its sharp octahedral crystals. Confused with carbuncle = ruby in former times.

irocks.com photo

Spinel : $MgAl_2O_4$
Locality: Hunza Valley, Gilgit District, Gilgit-Baltistan, Pakistan
2.6 cm x 2.2 cm x 1.9 cm

irocks.com photo

Spinel : $MgAl_2O_4$
Locality: Mogok Township, Pyin-Oo-Lwin District, Mandalay Division, Burma
1.1 cm x 1 cm x 0.9 cm

irocks.com photo

Spinel : $MgAl_2O_4$ on
Diopside : $CaMgSi_2O_6$
Locality: MacDonald Island, Baffin Island, Nunavut Territory, Canada
4.8 cm x 3.9 cm x 3.3 cm

Spinel : $MgAl_2O_4$, **Calcite :** $CaCO_3$
Locality: Crazy Sphinx Mine, Helena, Helena District, Lewis and Clark Co., Montana, USA
1.6 cm x 1.5 cm x 1.1 cm

irocks.com photo

irocks.com photo

Spinel : $MgAl_2O_4$
Locality: Marble occurrence, Morogoro, Uluguru Mts, Morogoro Region, Tanzania
2.0 cm x 2.0 cm x 1.6 cm

IMPORTANT ANNOUNCEMENT:

At the MSC Board meeting held on July 10, 2022, George Rossman, current MSSC President announced he will not accept a nomination for MSSC President for 2023. He is stepping down after serving 4 years as MSSC President. He believes it is important to have different people in the leadership roles, as it will foster new ideas and different perspectives. This will certainly benefit MSSC and it's future.

The upcoming election for Board Members (2023) depends on You volunteering. If there are no nomination for each of the positions, there will no longer be a MSSC. Please us the Self Nomination form (attached) and fill it out for one of the positions. **Don't Let MSSC become a Society of the past.**

Self-Nomination Form

Self-Nominations are needed for MSSC Board Positions. To nominate yourself, all you need to do is complete the form below indicating which position you are nominating yourself for. Please submit to Cheryl Lopez at membership@mineralsocal.org by Oct. 1, 2022. The election is Nov. 11, 2022.

MSSC Self Nomination for 2023 Board Position:

- President: _____
- Vice President: _____
- Secretary: _____
-
- Treasurer: _____
- CFMS Director: _____
- Director #1: _____
- Director #2: _____

Return this form to: Cheryl Lopez at: membership@mineralsocal.org
by Oct. 1, 2022

2022 MSSC Officers:

OFFICERS		
President	George Rossman	*president@mineralsocal.org*
Vice President	Cheryl Lopez	*vicepresident@mineralsocal.org*
Secretary	Angie Guzman	*secretary@mineralsocal.org*
Treasurer	Carolyn Seitz	*treasurer@mineralsocal.org*
CFMS Director	Angie Guzman	
Past President	Ann Meister	
DIRECTORS		
2022-2023	Pat Caplette	
2022-2023	Ahni Dodge	
2021--2022	Rudy Lopez	
2021--2022	Pat Stevens	
2021--2022	Leslie Ogg	
COMMITTEE CHAIRS		
Bulletin Editor	Linda Elsnau	*bulletin@mineralsocal.org*
Field Trip	Marek Chorazewicz	
Historian	Ann Meister	
Hospitality	Laura Davis	
Membership	Cheryl Lopez	*membership@mineralsocal.org*
Micro Mount Conf. Chairman	Al Wilkins	
Program and Education	Rudy Lopez	*programs@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. We are a scientific non-profit organization that actively supports those endeavors through public outreach, field study and related programs. 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. However, due to current health considerations, MSSC meetings are held via ZOOM conferencing until further notice**.** 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 Fallbrook Mineral Museum during the last weekend of January.

Annual Membership dues for the MSSC are $30.00 for an individual membership, $40.00 for a family membership. Bulletins are delivered by email, there is an additional annual fee if you prefer paper bulletins mailed to your address. The Society's contact information:

Mineralogical Society of Southern California
13781 Alderwood Lane, #22-J, Seal Beach, CA 90740
E-mail: *treasurer@mineralsocal.org*
Website: ***www.mineralsocal.org*** **The Mineralogical Society of California, Inc.**

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MSSC Bulletin Editor

3630 Encinal Ave.

Glendale, CA 91214-2415

To:

With Knowledge Comes Appreciation

Your MSSC Bulletin Is Here!