



Bulletin of the Mineralogical Society of Southern California

Volume 97 Number5 –May, 2024

The 1,025th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting
May 10, 2024 at 7:30 P.M.

Program: “Quartz of New Mexico”
Presented by: Erin Delventhal

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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

Program: "Quartz of New Mexico"

Presented by Erin Delventhal

Though New Mexico may be better known amongst mineral collectors for smithsonite or fluorite, it is also home to a wide variety of quartz deposits. Some of these localities are well-known to the mineral collecting community, while others are known predominantly by locals. This presentation will offer an overview of New Mexico quartz specimens, demonstrating the range of varieties (smoky, amethyst, chalcedony, etc.), and forms (twins, pseudocubes, scepters, etc.) that the state has produced.



Quartz var. Smoky, Smokey Bear Quartz Claims, Lincoln County, 15 cm, *Mike Sanders specimen, Erin Delventhal photograph*



Quartz var. Amethyst, San Pedro Mine, New Placers District, Santa Fe County, 3.4 cm, *Phil Simmons specimen, Phil Simmons & Erin Delventhal photograph*

Erin Delventhal grew up collecting minerals with her family – long road trips were punctuated with detours where she and her brothers could get dirty (and very tired) while collecting minerals. Photography and design took precedence as a hobby and a profession for many years, but a visit to the Tucson Gem & Mineral Show rekindled her love for minerals. She rejoined the mineral community with enthusiasm and has since been an active member in several organizations ranging from local to international, has been involved in mineral museums, symposia, and other educational programs, and has joyously returned to a life punctuated by getting dirty (and very tired) while collecting minerals. Among other things, Erin works as a freelance photographer, photo editor, and graphic designer.

How to Join our ZOOM Meetings

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, Carolyn Seitz at programs@mineralsocal.org no later than the Thursday prior to the next scheduled meeting. Please include "current month 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 also will allow time to get everything organized.

From the Editor: Linda Elsnau.

My goodness, Orthodox Easter, Cinco de Mayo, Mother's Day and Memorial Day all in one month! So many holidays, when will we find time for real life? Also, 2024 is almost half over ...time just flies by.

We have no field trip scheduled this month, but another excellent program is on tap for our meeting, not to be missed..

From Our President, Angie Guzman

... J A D E

What is it about jade that for so long (3,000 plus years) so many people have been attracted to and intrigued by it? What exactly is jade? Is the so called "Stone of Heaven" a gemstone, a mystic healer, a symbol of something, is it ornamental or is it, after all, a rock or mineral?



Let's start with the last first, a rock or a mineral. There are two types of "jade," commonly referred to as *jadeite* and *nephrite*. These are actually mineral aggregates like rocks, unlike mineral species. Confused yet? Read on a little further.

For many centuries, the world knew of jade as a single gemstone. In fact, it wasn't until 1863 that Alexis Damour, a French mineralogist, had determined that jade could, in fact, be one of two minerals and thereby created the two names, jadeite and nephrite. **Jadeite** is a silicate of sodium and aluminum in the pyroxene group of minerals, it is a legitimate mineral species. In China, the name *jadeite* has been replaced by *fei cui*, the traditional name for the green gemstone that has long been used there. **Nephrite** is a silicate of calcium and magnesium in the amphibole group of minerals, referred to as amphibole jade. However, in 1978, the International Mineralogical Association (IMA) deprecated nephrite as a mineral species name and, from that time forward, nephrite is known as a rock.

The word jade is from the Spanish term *pedra de hijada (loin stone) or piedra de los rinones (kidney stone)* (recorded in 1565). It was so called because jade was used in curing loin (and hip) and kidney ailments⁴.

For the many colors of jade, see below. Jade has a specific gravity of 2.9-3.8 and a hardness of 6-7 on the Mohs Scale. It has no cleavage and the diaphaneity is translucent, opaque. It has a splintery fracture.

Ornamental Use: Latin America countries (Mexico and Guatemala) have used jade and jade carvings for centuries; pre-Columbian Olmecs, Mayans and other ancient peoples used jade in rituals¹.

In New Zealand, the Maori people made use of jade's durability. They crafted tools, ornaments and weapons and passed them down through generations. There is a cherished heirloom pendant known as *hei-tiki* carved from the "greenstone" they called *pounamu*, classified gemologically, as nephrite. [Note: There was some non-jade, bowenite, used in these carved items, as well. Bowenite is a hard, compact variety of the serpentine species called *antigorite*.] The *hei-tiki* sacred pendants were kept in the family structure and it is said the ancestral spirits continued to guide families through the ages².

Ornamental use of jade is widespread. When I think of jade I think of China. China has used jade for over several millennia and has produced master carvers and a wonderful range of art pieces and jewelry. In the history of art of the Chinese empire, jade has a huge significance. It was also known as the "Imperial Gem" and was exclusively used to create ceremonial objects. The finest jade carved objects created were of cult figures and grave furnishings (buried with jade in the mouth or garbed in a jade tunic) for high-ranking members of the Imperial family.

Jadeite Colors: According to the Smithsonian Handbooks, Gemstones (Cathy Hall), jadeite comes in a wide range of colors including green, lilac, white, pink, brown, red, black, blue, orange and yellow. As stated above,

Imperial jade – rich emerald-green – is the most valued variety. Jadeite has a dimpled surface when polished. Jadeite occurs in metamorphic rock and as alluvial pebbles or boulders. An important source of jadeite is Myanmar and historically, so too in Guatemala and Japan. Jadeite is also found in the USA⁴.

In China, *fei cui* (jadeite) prized colors and grades are: (1) Imperial green, the highest grade *fei cui*. It is a bright emerald, luxurious verdant green. One shade darker and it would be too blue, one shade lighter and it would be too pale. (2) Dense green, has a synthesis of blue or yellow; it's three varieties are old, semi-old and new. (3) Vivid green is bright with a yellow hint. These three are the top three types of *fei cui* in China. They are similar in value and fine carvings are rare. This resource states that good jade is dense, clear and “regal” while bad jade is brittle and fractures easily. There are other degrees of greens and other colors, including the “kingfisher jade” (resembles the kingfisher bird’s feathers, red and green)³.

Nephrite Colors: Colors vary from dark green, iron-rich nephrite to a cream-colored magnesium variety. It may be blotchy or banded. Nephrite may be confused with bowenite and may be imitated by composite stones or dyed to enhance color. Nephrite jade has been carved in China for over 2,000 years and was first probably imported from Turkestan, Central Asia and later from Myanmar. Other locations for nephrite are Siberia (dark green rocks with black spots), Russia (spinach-colored stones) and China. New Zealand, Australia, Canada, Mexico, Italy, Brazil, the USA, Poland, Taiwan, Zimbabwe, Germany and Switzerland are the other sources of nephrite⁴.

Aside from China, other countries have also produced fine jade artworks. In Japan, jade bracelets were a symbol of power and wealth. It is the national stone of Japan and can be traced back to about 7,000 years. There is evidence that all jade used in Japan since the Jomon period (14,000-300 B.C.) is from Itoigawa, the Forgotten City of Jade. Itoigawa is right between western and eastern Japan. The jade culture, in ancient Japan, blossomed under the green jade and other colors were not used. The belief is that green enables life, fertility and the soul of the earth. There have been no jade carvings, beads or jewelry found in Japanese graves after the 8th century⁵.

In Korea, jade and other greenstones have been used since 850 B.C. Jade has been found in small numbers of pit-houses and burials. In India, there is a 5-foot-high sculpture of Mahavira carved entirely of jade. According to Wikipedia, Mahavira was the 24th supreme preacher of Jainism. He was born early 6th century B.C.E.⁶. Also, the East Indians use green serpentine or *false jade*, to fashion jewelry and ornamental items (sword hilts, dagger handles, etc.).

It is estimated that Myanmar supplies the world with 70% of high-quality jadeite. Almost all of the jadeite is exported, primarily to Asia, for jewelry and other products. Deposits of jadeite are found in Kachinland, the northern region of Myanmar and it is the highest quality in the world.

Long ago in those ancient times, an important location for jade mining was in modern-day Haulien City, Taiwan. The nephrite jade was transported on the *Maritime* Silk Road and was the main commodity traded during that era. The jade was mined in Taiwan by animist Taiwanese Indigenous peoples and processed in the Philippines by animist Indigenous Filipinos, Vietnamese and others. All these people participated in the jade trading network; other commodities were traded, as well. *The maritime road is one of the most extensive sea-based trade networks of a single geological material in the prehistoric world, in existence for at least 3,000 years with peak production from 2,000 BCE to 500 CE – older than the Silk Road in mainland Eurasia.* It was the golden age for the diverse animist societies of the region. [Note: Animist belief is that of the existence of spirits separable from bodies (Merriam-Webster Dictionary).]

There is so much more to jade than what meets the eye. BUT, as one of MSSC’s speakers, Renee Newman, once told us in one of her presentations on diamonds and gemstones, “**buyer beware.**” If your interest is jadeite, nephrite or fei cui, make sure you know what you’re getting.

References/resources for this article:

1. Wikipedia: Jade
2. Int’l Gem Society (IGS): Jade Symbolism
3. Lost Laowai Blog: An Introduction to Jade-Fei cui

4. Smithsonian Handbooks: Gemstones (Cathy Hall)
5. More Than Tokyo: Itoigawa-The Forgotten City of Jade
6. Wikipedia: Mahavira

~ E N D ~

Post Script

I know, I should have listened! Not too long ago, I was involved with an auction of an “antique, jade hand-carved dragon sword, with 9-rings”. The paperwork claimed the piece had been in so-and-so’s collection, the 9 rings were significant in Chinese lore and the dragons were historically meaningful. Lo and behold, I won that auction and went to pick up my prize. It was hefty at 4-5 lbs. and rather large, approximately 20” long, 4” high and 1-1/2” wide. Here it is...



Photos by A Guzman



Rings close up



Dragon close up

I wanted to know if I’d made a good purchase, so I went to see “the man.” I showed the piece to Dr. Rossman and asked if he could authenticate the jade. As a matter of happenstance, Dr. Housley came by the lab and helped with the analysis. WOW! What do you know? Turns out the jade was NOT jade at all. It was not jadeite, nephrite, nor was it fei cui! So, what was it? And thus, I was given the truth about my “antique, jade hand-carved dragon sword” – it’s mostly calcite! AND the green color was a surface coating made to appear as jade. It rubbed right off using a little elbow grease. Unbelievable! In my web research, I saw two similar hand-carved pieces, one going for \$300 and the other for \$1,500. Luckily, I paid less than either of them. Dr. Rossman said, “No hand-carved jade, but at least you’ve got a good story!” He was right. Thanks Dr Rossman and Dr Housley. Now, I wonder if it really is only a single piece of calcite...

- Welcome back to our new Vice President, Renee Kraus. Congratulations! Thank you for volunteering!
- May Membership meeting will be Friday, May 10th.
- May flowers to all the moms out there. Happy Mother’s Day on May 12th.
- CFMS/AFMS Show in Ventura is the weekend of May 24-26.
- Have a safe Memorial Day Weekend!

MINUTES of the April 12, 2024 MSSC ZOOM Meeting

Welcome

1. President Angela Guzman called the meeting to order at 7:34 pm and welcomed 21 members, to the 1,024th Membership Meeting of the Mineralogical Society of Southern California (it is our 47th ZOOM meeting). There were no new members or guests present.
2. List of Minerals: The [International Mineralogical Association \(IMA\) Database of Mineral Properties](#) lists 6,006 mineral species. However, The New IMA List of Minerals – A Work In Progress – Updated March 2024, lists the 6,031 approved mineral species, unchanged from last month's report. You can find this information on the IMA website, under the tab, Commission on New Minerals Nomenclature and Classification (CNMNC).
3. Interesting facts: According to *American Mineralogist* (Vol. 109), in 2022 there were 77 new mineral species approved. In 2023, there were 112 new mineral species approved, an increase of 35 new minerals!
4. President Guzman encouraged all attendees to visit the [links](#) page of the website for lots of useful information.

President's Message - Announcements

1. CFMS/AFMS Gem & Mineral Show and Convention: May 24-26 in Ventura. Please visit the CFMS website www.2024cfms-afms.com for more information. CFMS is asking for volunteers for the show. If you are interested, Diane Cook is the Show Chair; her contact information will be posted to the CFMS and MSSC websites as soon as it is available.
2. Reminder to be aware of cyber fraud: e-mail requesting invoice payments, etc. MSSC has received several bogus requests.
3. Second call for your Silent Auction donations for the upcoming MSSC August Annual Pot-Luck Picnic. Please e-mail Rudy L. at programs@mineralsocal.org to arrange drop-off or pick-up of your items. This year's Picnic will be on Saturday, August 24, 2024, at Caltech's Technology Park, a great venue for us.

Business

1. Minutes to approve: President Angela Guzman asked for a motion to approve the March 8, 2024, membership meeting minutes as published in the April 2024 Bulletin. A motion to approve the stated minutes was made by Carolyn S. and seconded by George R. The president called for any additions, corrections, or discussion. Hearing none she called for a voice vote to approve the motion. The motion to approve the membership minutes carried.

Announcements and Reports

1. Field Trips (Marek C.): Marek not present, so no report
2. Membership Report (Carolyn S.): nothing to report.
3. Programs/Education (Rudy L. with Simona C.): Smart Night at Hamilton school was a successful outreach. Many handouts were distributed to children and their parents.
4. Program: Carolyn S., Speaker Chair, introduced tonight's speaker, Christopher Stefano, Ph.D. who will be talking about the brown fluorite from Clay Center, Ottawa County, Ohio.

After Carolyn's introduction, Dr. Stefano started by describing the area in northwestern Ohio. It's near lake Erie and is the historical lake floor, "this is one of the flattest places you will ever go." The Clay Center quarry is one of several in the area. It is a large limestone quarry; it has been a quarry since the 1870s. They made whitewash and mortar. Minerals such as brown fluorite, celestine, and other minerals were reported in the 1880s. For a while it was the biggest white lime producer in the world. Now the material is used as road aggregate.

The geology of the area: Ohio is a large arch or anticline. Clay Center is in Silurian age limestones; it was an ancient coral reef. When the Appalachian mountains were uplifted, they squeezed the water out of the large basin towards the arch. The water containing dissolved metals cooled and reacted with sulfide producing

bacteria producing minerals in empty spaces in the limestone. This is known as a Mississippi Valley type lead-zinc deposit. He showed a world map with these types of deposits all over the world. These deposits are important for metal mining and produce fine mineral specimens. Examples include fluorspar from Illinois, calcites and fluorites from Elmwood and Carthage in Tennessee, Rogerley green fluorites from England.

The Clay Center quarry is in the Lockport Dolomite formation. The quarry is in a fault zone which allowed water in the faults to aid mineralization. The 2006-2007 Gail Deck fluorite find put this area on the mineral collecting map. They were collecting minerals for schools, and some on the side for profit.

Chis talked about some of the Clay center minerals. First, calcite, elongated pale yellow rhombohedrons associated with celestine. Clay center is one of the largest strontium (celestine) deposits in the world. During WWII volunteers hand-picked strontium crystals for use in signal flares. The crystals are long blades and are rarely found intact. He showed two beautiful specimens with terminated crystals, saying that these are very rare. Fluorite is what everybody wants. The crystals are in shades of brown with some showing a gold iridescence. Some crystals are almost 14cm! Others have light brown rims with a darker zoning inside. He showed a fluorite replacing a *megalomas canadensis* (clam) fossil. Purple fluorite is rare, and the crystals are tiny.

He said the fluorites are highly fluorescent. They fluoresce blue under short-wave and long-wave ultraviolet light due to hydrocarbons present in the fluorite (this is what colors them brown). They are also phosphorescent.

Lastly, he showed some of the lead-zinc minerals starting with galena crystals (rare), tiny cerussite crystals, smithsonite, and secondary zinc minerals. All of these are very rare. Sphalerite is present and more common than galena. The sphalerite crystals are beautiful, reddish modified tetrahedra. He mentioned other quarries in the area that produce brown fluorites (Genoa and Lime City, Ohio).

He closed by talking about his employer, The Mineralogical Record, a non-profit publication and asked us to support the publication. Check out mineralogicalrecord.com.

A question-and-answer period followed the talk.

Last Words

- (a) Board Meeting this Sunday, April 14, 2024, at 1pm via ZOOM.
- (b) Next Membership meeting Friday, May10, 2024.

Adjournment: The president adjourned the meeting at 9:00 pm

Respectfully submitted, Leslie Ogg, MSSC Secretary

MINUTES of the April 14, 2024 ZOOM Board Meeting

Present: Angie G, Pat C., Pat S, George R., Leslie O., Carolyn S., Simona C,
Marek C., David L., Bob H., Rudy L.

Excused: Ahni D., Linda E.,

Guest: Renee Kraus

1. From the Chair: The meeting was called to order at 1:03pm.
 - a) President Guzman welcomed 11 members and one guest.
 - b) I offer my sincerest thanks to all of you for making the Mineralogical Society of Southern California a success in many ways. Your efforts and participation are appreciated by me, and I believe we are each proud to be associated with such a respected mineral society, as ours. Thank you!
 - c) She said now is the time to enroll like-minded people into becoming new members. How can we achieve 10 new members by our next Board Meeting? How shall we grow MSSC's membership to ensure our continued long-lasting viability? What say you?
2. Business
 - a) Approval of the January 7, 2024, Board Meeting Minutes as published in the February 2024 Bulletin. A motion to approve was made by: George R. and seconded by Pat S. There were no corrections,

additions, or discussion. The president called for a voice vote: the motion to approve the minutes passed.

- b) Discussion: 2025 Installation Banquet and Silent Auction: venue, cost, attendance, date(s), speaker. Angie proposed we start planning now. We are looking for a new venue. She will ask Rudy to start the groundwork; if he can't do it a committee will be formed. David asked if it had to be in the Pasadena area. Angie said not necessarily. Venue needs to have AV and Wi-Fi.
- c) Discussion: Which, if any, unsolicited "Announcement" notices may be posted in the MSSC Bulletin? We added an announcement for a program at the Culver City Club to our bulletin. In the future what will we do? Pat S. suggested adding announcements to website. George said most clubs announce other clubs' meetings in their bulletins. Simona suggested we should be reciprocal to other clubs. Angie stated that we have links to other websites on our site.
- d) Discussion: Will you run for re-election in October/November? Angie asked all officers and board members to think about running for reelection.

3. Reports

- a) Treasurer's Report (Carolyn Seitz) Carolyn sent out the current report. Pat S. had a question about investment of surplus funds. Pat suggested investing some of the surplus in Treasuries. Carolyn suggested investing \$5000-\$7500 in Treasuries. Angie asked her to check into it.
- b) Secretary's Report (Leslie Ogg): nothing to report.
- c) CFMS Director Report (Angie Guzman): CFMS/AFMS Show in Ventura in May. Dr. Rossman will be honored at the banquet.

4. Director Remarks

- a) Pat Caplette (2024-2025): no remarks
- b) Ahni Dodge (2024-2025): Excused
- c) Simona Cianciulli (2023-2024): She talked about the Smart event at Hamilton Elementary. They had a packet for all attendees. Parents wanted to know if we had a kid's club. She sent them to our website. We are invited for next year. Simona will have a full report for the bulletin next month. A Girl Scout leader approached her about a possible field trip for local (Pasadena) troops.
- d) Angie suggested White's Point or Royal Palms in San Pedro, or maybe a trip to the NHMS mineral/gem hall.
- e) David Lesperance (2023-2024): no remarks
- f) Patrick Stevens (2023-2024): Said he may have a contact for local Girl Scout Councils.

5. Committee Reports/Comments/Issues

- a) Bulletin Editor (Linda E): Postage is going up again. Angie okayed her buying two rolls of Forever stamps. Her paper and toner supplies are sufficient.
- b) Field Trip (Marek C): There is a CFMS trip to the Hauser Geode Beds. He is currently scouting for an MSSC trip. Possibly a Barite trip to Palos Verdes in June or July.
- c) Membership (Carolyn S): She is still trying to recruit a new Membership Chair.
- d) PMC (Bob H): The next PMC will be in January 2025, still in Fallbrook. Al W. is working on the conference. It was suggested that we advertise to other clubs. There was discussion about the micromounts for sale as being "stale." Pat S. said maybe we could trade with SDGMS; he will make an inquiry. Rudy mentioned the possibility of selling micromounts at the picnic. It may entice other clubs to come to the picnic.
- e) Programs (Rudy L): OC Parks event in Fall. Not sure about NHM Nature Fest. Angie will poll members at the next meeting.
- f) Speakers (Carolyn S): Carolyn said she has speakers up to next October, except for July.
- g) Webmaster (Leslie O): email confusion on Programs and Speakers email addresses. As per discussion, Rudy will still have programs@mineralsocal.org and education@mineralsocal.org and Carolyn will have speakers@mineralsocal.org.
- h) Past President (George Rossman, Ph.D.): George said that the BLM website for rockhounding has been updated. It shows areas, collection limits, etc. Better than we expected. On the other hand, our contact

person for the MTNM has been promoted, and she may not have compiled all the submissions before leaving! Leslie will add a link to the BLM rockhounding website to our website.

i) Historian (Ann M): not present.

6. New Business: President Guzman asked for a motion to appoint Renee Kraus as MSSC Vice President. The motion was made by Carolyn S. and seconded by Simona C. The motion passed on a voice vote. Angie thanked everyone for attending and asked us to think about how to get new members.

7. The next Board meeting will be June 30, 2024

8. Meeting adjourned at 2:23 pm

Minutes submitted by Leslie Ogg, MSSC Secretary

Public outreach event: Hamilton Elementary “Smart Night”

by Simona Cianciulli

Micro Marvels: A Glimpse into the Hidden World of Minerals at Smart Night!

On March 22nd, the Hamilton Elementary School in Pasadena was filled with excitement as it hosted its annual Smart Night, a special event that invites the Pasadena community to dive into a sea of learning and discovery through community led science and art exhibits (e.g., Caltech, NASA/JPL, Armory Center).

This year, I had the privilege to represent the Mineralogical Society of Southern California (MSSC) and was tasked to create an interactive booth that I called "Micro Marvels: Exploring the Hidden World of Minerals." With our booth we aimed to captivate the imaginations of attendees and unveil the intricate beauty of the mineral world. What we presented was a treasure trove of geological exploration and mineral specimens. With rock hammers, safety gloves, books and geological compasses, we guided future rockhounds on how to explore the natural world around them. Through the magical lenses of our microscopes, we unveiled the hidden treasures within minerals, revealing a world unseen by the naked eye.

The event was a resounding success, drawing over 250 children and their families, many of whom expressed interest in the activities of the MSSC. Our team, including myself, Rudy, and Angie, worked diligently to ensure an educational and enjoyable experience for all. We were joined by my children, Giulia and Leonardo, who volunteered their time to set up and showcase the mesmerizing world of fluorescent minerals.

We also distributed more than 200 MSSC brochures, each one containing a fun and educational Word Search Puzzle and a crystal model to cut out. It was a night of education, community, and discovery, one that we hope will ignite a



passion for mineralogy in the hearts of many for years to come.

Events of this kind are, in my opinion, very much needed, especially in our public school system where funds are always scarce, and the help of the scientific community can truly make a difference in the learning experience of the next generation of thinkers. All we need to do is create the opportunity for sparks of curiosity to arise in young minds, which can lead to a future interest in mineralogy.

We will be back next year to Hamilton Elementary School Smart Night and I will work to ensure our presence in similar events in the PUSD school district.



List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	ZOOM June 14, 2024	Les Presmyk – TBA likely on Mexico minerals
	ZOOM July 12, 2024	TBA
	ZOOM August 9, 2024	Jim & Gail Spann -TBA
	ZOOM September 13, 2024	Peter Megaw.-TBA
Board Meeting	ZOOM June 30, 2024	ZOOM at 1:00 PM
MSSC Picnic	August 24, 2024	Technology Park, Caltech Campus Watch for more details
Field Trip	TBA	

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

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

OTHER FREE THINGS TO DO...by Ann Meister

The **Watson Lecture**, the last of this school term, is on Wednesday, **May 22** at 7:30 PM at Caltech’s Beckman Auditorium. The speaker is Carver Mead, Professor of Engineering and Applied Science, Emeritus, Caltech. The title is “**Caltech and the Science and Engineering that Changed the World.**” Drawing on more than 70 years of research and perspective, microelectronics pioneer Carver Mead (BS '56, PhD '60), the Gordon and Betty Moore Professor of Engineering and Applied Science, Emeritus, will share a history of Caltech breakthroughs and innovations that have revolutionized modern society. In this talk, Mead will illuminate the contributions of Caltech scientists and engineers who have worked to identify and eliminate Los Angeles smog; to engineer the semiconductors that ushered in Silicon Valley and the age of digital information; to create the lasers that made the World Wide Web possible; to bring GPS to the masses; and to make cars electronic. His discussion will span both his own work and that of colleagues, students, and fellow alumni who pursued excellence, defied convention, and made all our lives better. *Find more past Watson Lectures on [Caltech's YouTube channel](#).*

The **UCLA Meteorite Gallery** is open. Check the website for hours. The monthly lecture will be presented via Zoom on Sunday, **May 19** at 2:30 PM. The speaker and the title are not yet available. To join via Zoom, click [here](#). If clicking the link does not work, please open your zoom app and enter the meeting ID: 983 0252 9304.

Then click "join meeting in progress" (there is no password). If you need further instructions on how to join our meeting via Zoom, click [here](#) or contact Kevin McKeegan at mckeegan@epss.ucla.edu. Visit the website and check on events and videos and other neat things about meteorites, go to <https://meteorites.ucla.edu>

The **Von Kármán Lecture** is on Thursday, **May 16** at 5:00 PM. Available live on YouTube at [NASA Jet Propulsion Laboratory - YouTube](#). The speakers are Brad Kinter, Group Supervisor, Environmental Thermal Testing and Michel William, Group Supervisor, Environmental Dynamics Testing, both NASA JPL. The title is **"Shake & Bake: How Spacecraft Are Tested to Handle the Harsh Environment of Space."** Have you ever wondered how spacecraft are designed to handle the punishing conditions of launch and the extreme variations of space? From rocket vibrations to the temperatures and pressures of space and other planets, the Environmental Test Lab (ETL) at JPL is responsible for simulating these conditions and verifying, through a series of rigorous tests, that spacecraft will be able to fulfill their missions. Join us for a live chat with two ETL experts who will teach us more about the equipment, the people behind environmental testing, and how they literally "shake and bake" spacecraft. Check website for information and past lectures [Lecture Series \(nasa.gov\)](#).

Calendar of Events:

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

2024

May 3-4, 2024 – Yucaipa, CA

Yucaipa Valley Gem & Mineral Society
Show will be held on Yucaipa Blvd near Adams Street, Yucaipa CA 92399
Hours: Friday 5 PM – 10 PM, Saturday noon – 9 PM
Website: <https://www.yvgms.org/>

May 4-5, 2024 – Lancaster

Antelope Valley Gem & Mineral Club
2551 W Ave. H, Lancaster, CA 93536
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM

May 24-26, 2024 – Ventura, CA

Ventura Gem & Mineral Society and The American Federation of Mineralogical Societies
AFMS/CFMS GEM AND MINERAL SHOW AND CONVENTION

Ventura County Fairgrounds, 10 W. Harbor Blvd., Ventura, CA 93001
Hours: Friday and Saturday 10 AM – 5 PM, Sunday 10 AM – 4 PM
Website: <http://www.2024cfms-afms.com>, <http://www.vgms.org>

WEST COAST GEM & MINERAL SHOW

May 3-5, 2024

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(wholesale closes at 4 pm Sunday)

80 select
wholesale
& retail
Dealers



Aquamarine from Pakistan

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* Fossils * Decorative Pieces * Much more!

www.MINERALSHOWSLLD.com mineralshowslld@gmail.com

**WITH KNOWLEDGE
COMES APPRECIATION**

June 8-9, 2024 – Escondido, CA

Palomar Gem and Mineral Club
California Center for the Arts – at the Conference Center, 340 North Escondido Blvd., Escondido, 92025
Hours: Sat 10AM – 5 PM, Sun 10AM – 4 PM
Admission: \$5.00, Children under 12 Free
Website: <http://palomargem.org>

June 15, 2024 – Bellflower, CA

Delvers Gem and Mineral Society
Holy Redeemer Lutheran Church, 14515 Blaine Ave., Bellflower, CA 90706
Hours: 10 AM – 4 PM. Parking lot sale – Free Admission, Free Parking.

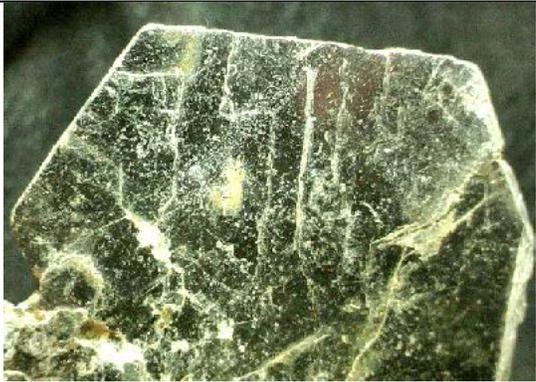
June 29-30, 2024 – Culver City, CA

Culver City Rock & Mineral Club
Veteran’s Memorial Auditorium, 4117 Overland Ave., Culver City, CA 90230
Hours: Saturday 10 AM – 6 PM, Sunday 10 AM – 5 PM
2024 Fiesta of Gems –
Website: <http://culvercityrocks.org>

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			

Mineral Vocabulary

(Descriptions are as defined in *Manual of Mineralogy*, 15th edition, by: Dana & Hurlbut; published in 1941)

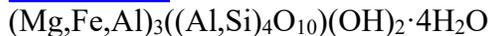


irocks.com photo

Micaceous

Similar to foliated but the mineral can be split into exceedingly thin sheets as in the micas.

Vermiculite :



Locality: [Brinton's Quarry, West Chester, Westtown Township, Chester Co., Pennsylvania, USA](#)

13 x 10 x 1 cm



irocks.com photo

Lamellar or Tabular

When a mineral consists of flat platelike individuals superimposed upon and adhering to each other.

Molybdenite :



Locality: [Babu District, Hezhou Prefecture, Guangxi Zhuang Autonomous Region, China](#)

4.5 x 3.0 x 1.1 cm.

2024 MSSC Officers:

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Vice President	Renee Kraus	vicepresident@mineralsocal.org
Secretary	Leslie Ogg	secretary@mineralsocal.org
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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!**