



BULLETIN of the Mineralogical Society of Southern California

Volume 99 Number 8 August, 2026

The 1,053rd meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting
August 14, 2026, at 7:30 P.M.

Program: Something Chose This Garnet: Aquarius Mountains, Arizona

Presented by Aaron Celestian, Ph.D.

In this Issue:

<i>TITLE</i>	<i>Page</i>
Program: " Something Chose this Garnet: Aquarius Mountains, Arizona " Presented by Aaron Celestian, Ph.D.	2
From the Editor: Linda Elsnau	2
From Our President: Leslie Ogg	2
Minutes of the July 10, 2026, ZOOM Meeting	3
List of Upcoming MSSC Events	4
Picnic is Happening Leslie Ogg	4
Other Free Things to Do. Ann Meister	5
Calendar of Events	5
2026 Officers	7
About MSSC	7

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: Something Chose This Garnet: Aquarius Mountains, Arizona Presented by Aaron Celestian, Ph.D.

After 35 years of carrying this crystal in my back pocket, I finally understand it.

A garnet collected as a teenager in Arizona's Aquarius Mountains carries a nanometers-thin surface film producing metallic green iridescence with no precedent in the mineralogical literature. Worn edges show ordinary black almandine beneath, confirming the color is a coating, not a new species. X-ray fluorescence reveals that coated and uncoated garnets from the same outcrop — visually identical in hand specimen — are chemically distinct populations: the coated garnets carry elevated P, S, Ca, Sc, Cr, and Zn with a high K/Rb ratio pointing to a mafic-influenced volcanic fluid pulse, while the uncoated garnets record a more evolved, felsic source. Raman spectroscopy, laser-induced breakdown spectroscopy, SEM imaging, and EDS elemental mapping then resolve the coating's internal structure: a layer of hematite (Fe₂O₃) directly on the garnet surface, overlain by nitrogen- and phosphorus-bearing organic carbon composed of packed, sub-micron, coccoid-bacteria-like structures (C:N ≈ 4.9:1). The evidence supports a model in which iron-oxidizing bacteria selectively colonized garnets whose trace-element chemistry made lattice Fe²⁺ more accessible as an electron donor, converting it to hematite and leaving fossilized biomass behind — turning a 20-million-year-old vapor-phase garnet into an unexpected archive of desert microbial activity.

Dr. Aaron Celestian is Curator and Department Head of Mineral Sciences at the Natural History Museum of Los Angeles County. He holds adjunct appointments at West Los Angeles College and the University of Southern California and previously served as a JPL Affiliate Research Scientist. His research on the crystal chemistry of microporous and framework minerals spans pharmaceutical mineralogy, environmental remediation, lithium extraction, and biomineralization and astrobiology. His work on zeolites contributed to the development of an FDA-approved treatment for hyperkalemia. Dr. Celestian has described 17 IMA-approved mineral species and received an R&D 100 Award in 2025. He is a National Fellow of The Explorers Club and a past Distinguished Lecturer for the Mineralogical Society of America.

How to Join our ZOOM Meetings

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

For non MSSC Members who want to attend this meeting. You must respond to our Programs chair, Carolyn Seitz speakers@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.

From the Editor: Linda Elsnau.

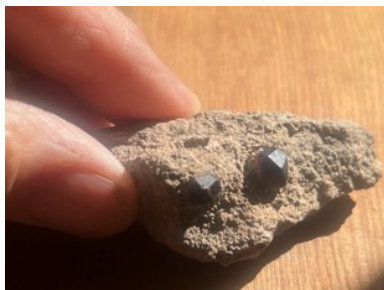
What a coincidence that both our President and our speaker this month are discussing garnet. Be sure to catch the program to check out the garnet that puzzled our speaker for 35 years.

I hope everyone who can is planning on joining the Picnic this month and don't forget to see what you can donate to the silent auction.

Our annual elections for 2026 are rapidly approaching. Search your conscience and your schedule to see what you can do to help keep MSSC a thriving group.

From Our President Leslie Ogg

Many years ago, we made a trip to Ely Nevada. We collected at Garnet Hill and got nice dark red almandine garnets in pinkish rhyolite.



Almandine Garnets in Rhyolite, Ely Nevada



Almandine Garnets in Rhyolite, Ely Nevada

collected & photographed by Leslie Ogg

Adolph Pabst described this locality in The American Mineralogist in 1938 (from Spencer and Melhase in 1917). He said the garnets were found in quartz lined “globular vesicles” in rhyolite. The garnets are a glassy, deep red in a trapezohedron shape, with occasional dodecahedrons.

Almandine garnets $\text{Fe}^{2+}_3\text{Al}_2(\text{SiO}_4)_3$ are the most common and widely distributed type of garnet. They are cubic, with a hardness of 7 to 7.5. Almandine is closely related to the garnet pyrope in which iron is replaced by magnesium $\text{Mg}_3\text{Al}_2(\text{SiO}_4)_3$. Coarse almandine is crushed and used as an abrasive; one example the ubiquitous garnet sandpaper. Garnet is the state gemstone of Connecticut. Lastly, our speaker for August, Aaron Celestian will be talking about garnet; a happy coincidence!

The Ely area is most well-known for copper, and some gold, mining. If you ever visit Ely, be sure to visit the Nevada Northern Railway Museum. The railroad museum features the Ghost Train of Old Ely, a working steam-engine passenger train that travels the historic tracks from Ely to the Robinson mining district. You will end up with cinders in your hair from the coal fired steam engine!

Some interesting facts about Ely:

- The historic Lincoln Highway, the first road across America, went through Ely.
- Ely is home to the most isolated charging station in the United States.
- First Lady Patricia Nixon was born in Ely, her father was a miner.

A few reminders:

1. Our annual picnic and silent auction are coming up on August 29. You can now go to the sign-up page and RSVP and tell us what you are bringing (these are two separate forms you must complete) [link here](#)
2. Please check out Aaron Celestian’s Substack Blog [Pocketful of xtals](#). Very interesting and enjoyable to read!

MSSC Membership ZOOM Meeting Minutes, Friday, July 10, 2026

16 members and two guests were in attendance. Barbara joined from the New York Mineralogical Club, Renata Lafler, was our speaker for this evening.

President Leslie O. announced that this was the 1,052nd meeting.

Minutes of the June 12, 2026, meeting: Scott made the motion to approve the minutes and Bob H. seconded the motion.

President Leslie O. announced that there were 6,227 minerals, 3,312 rock names, and 418,689 localities as published on Mindat.

Carolyn S. introduced the guest speaker Renata Lafler, executive director of the Mines Museum of Earth Science in Golden, Colorado. Renata provided an overview of the Mines Museum of Earth Science, highlighting its collection of 45,000 objects, including minerals, fossils, and mining artifacts, with over 3,000 on display. The museum's history was discussed, including its origins in 1877 with Professor Arthur Lakes' teaching collection and significant expansions post-World War II, including the Boettcher collection of gold and the transfer of the State Collection of Colorado in 1966. The museum's current structure and recent renovations were described, along with its mission to foster appreciation for

earth science and steward Colorado's mineral heritage. Renata also discussed the museum's significant collections, including a T-Rex fossil tooth replica, seven historical mining-themed paintings by Erwin Hoffman, and the Miss Colorado crown. The Miss Colorado crown, created in 1973, contains 613 gems and represents Colorado symbols like the Rocky Mountains, Columbine, and Aspen leaves through carefully crafted designs. Renata noted that the crown is loaned to the Miss Colorado Scholarship Association for pageant use and has never been professionally cleaned since her arrival at the museum in 2018.

Leslie O. announced that MSSC elections will be coming soon.

The picnic for August 29th was discussed, and sign-up sheet will be available on the website.

There will be a board meeting on August 2nd, 1 p.m.

There was no field trip report.

Next regular meeting will be August 14th at 7:30

Meeting adjourned at 9:04 p.m.

Submitted by Marcia Goetz

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates::	ZOOM September 11, 2026	TBA
	ZOOM October 9, 2026	TBA
	ZOOM November 13, 2026	TBA
Board Meeting	Sunday, August 2, 2026	ZOOM at 1:00 PM
Annual Picnic	Saturday, August 29, 2026	Noon to 4:00P.M.
Field Trip		No News At This Time

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

Picnic is happening!



Please join us for our annual potluck picnic and silent auction.

Date: Saturday-August 29, 2026

Time: 12:00 noon-4:00 pm

Location: Tournament Park on the campus of CALTECH.

1200 E. California Blvd.

Pasadena, CA 91125

We need Silent Auction and Raffle items.

If you have questions, please feel free to contact president@mineralsocal.org or info@mineralsocal.org

[CLICK HERE TO SIGN UP!](#)

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! Hopefully the maintenance of Beckman Auditorium will be completed. Find past Watson Lectures on [Caltech's YouTube channel](#).

The **UCLA Meteorite Gallery** is open to the public weekdays from 9 am to 4 pm and on Sundays from 1 to 4 pm when it is staffed with volunteer docents. Admission is always free. The monthly lectures seem to have been discontinued but the gallery is well worth exploring. Visit the website and check on events, videos, and other neat things including resources for teachers, Go to <https://meteorites.ucla.edu>

Calendar of Events:

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

2026 Shows

July 31, August 1-2, 2026 - Nipomo, CA

Nipomo High School, 525 North Thompson Avenue,
Nipomo, CA 93444

Orcutt Mineral Society

Hours: Fri & Sat, 10 am to 5 pm; Sun, 10 am to 4 pm

Orcutt Mineral Society's 58th Rock & Gem Show

60 outside and 12 inside dealers; kids booth and food trucks. <https://www.oms-inc.org/tailgate.html>

Aug 15-16, 2026 - Tehachapi, CA

Tehachapi Senior Center, 500 East F Street,
Tehachapi, CA 93561

Tehachapi Valley Gem and Mineral Society

Hours: Sat 9am - 5pm; Sun 9am - 4pm

Tehachapi Valley Gem , Mineral and Jewelry Show.
Family activities, Awesome vendors, raffles & much more.

Website: tvgms.net

Aug 22-23, 2026 – Escondido, CA

California Center for the Arts, The Museum, 340 N.
Escondido Blvd., Escondido, CA

Palomar Gem & Mineral Club

Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM

Admission \$5, under 12 Free. Free parking.

Website: <https://palomargem.org/pages/annual-gem-mineral-and-jewelry-show>

Sept 18-20, 2026 – CFMS Show - Reno, NV

Reno-Sparks Convention Center, 4590 South Virginia
Street, Reno, Nevada 89502

Reno Gem and Mineral Society

Hours: Friday and Saturday 9 AM – 5 PM, Sunday 9
AM – 4 PM

Website: renogms.org

Sept 19-20, 2026 - Arcadia CA

Arcadia Masonic Center, 50 W. Duarte Rd., Arcadia
CA 91007

Pasadena Lapidary Society

Hours: Sat. 10 AM - 5 PM, Sun. 10 AM - 4 PM

66th Annual Gem & Mineral Show

Website: pasadenalapidary.org

Sept 19-20, 2026 – Monterey, CA

Monterey Fairgrounds, 2004 Fairgrounds Road,
Monterey, CA 93940

Carmel Valley Gem & Mineral Society

Hours: Saturday and Sunday 10 AM – 5 PM

Website: cvgms.rocks

Sept 26, 2026 - Lake Elsinore, CA

32113 Corydon Road, Lake Elsinore, CA 92530

Lake Elsinore Gem and Mineral Society

Hours: 10am-4pm

<https://www.facebook.com/groups/530281757337262/events>

Sept 26-27, 2026 - San Luis Obispo, CA

Alex Madonna Expo Center, 120 Madonna Rd,
San Luis Obispo, CA 93405

San Luis Obispo Gem and Mineral Club

Hours: 10AM - 5PM

\$5 Admission (Children, 12 and under free).

Free parking

Website: slogem.org/gems-by-the-sea/

MSSC Advertisement Policy:			
Mineral-related ads are allowable in the MSSC bulletin. Below is the price per month			
	Business Card	\$5.00	
	One-third page	\$10.00	
	One-half 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 2231 Golden Circle, Newport Beach, CA 92660			

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2026 MSSC Officers:

OFFICERS		
President	Leslie Ogg	president@mineralsocal.org
Vice President	Renee Kraus	vicepresident@mineralsocal.org
Co-Secretaries	Marcia Goetz	secretary@mineralsocal.org
Treasurer	Pat Stevens	treasurer@mineralsocal.org
CFMS Director	Angie Guzman	
Past President	Angie Guzman	
DIRECTORS		
2025--2026	Carolyn Seitz	
2025--2026	David Lesperance	
2025--2026	vacant	
2026-2027	Pat Caplette	
2026-2027	Bert Vogler	
COMMITTEE CHAIRS		
Bulletin Editor	Linda Elsnau	bulletin@mineralsocal.org
Field Trip	Marek Chorazewicz	
Historian	Ann Meister	
Membership	Linda Elsnau	membership@mineralsocal.org
Micro Mineral Conf. Chair	Al Wilkins	
Program and Education	vacant	
Speaker Bureau	Carolyn Seitz	Speakers@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 held on the second Friday of each month, at 7:30 p.m., MSSC meetings are conducted via ZOOM conferencing until further notice. The annual Installation Banquet occurs in January, and the annual Picnic and Swap Meeting are in August. 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 sent 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
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Glendale, CA 91214

To:



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