BULLETIN of the Mineralogical Society of Southern California

Volume 99 Number 4 April , 2026

The 1,049th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting

April 10, 2026, at 7:30 P.M.

Program: **"Minas Gerais: The Wonders of Pegmatites" Presented by Paolo Sanchez**

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

Program: ” Minas Gerais: The Wonders of Pegmatites” Presented by Paolo Sanchez

This presentation focuses on the famed mineral-rich pegmatite districts of Minas Gerais, Brazil, following a recent expedition in June 2025 by Paolo Sanchez. Paolo has undergone scientific field work over two and a half weeks exploring gem and lithium-rich pegmatites of grand proportions--up to over 60 meters thick, with crystals meters long--as part of thesis research to understand how the melting ancient ocean floor around 580 - 500 million years ago could contribute to producing lithium-rich pegmatites. This talk will touch upon the science behind pegmatites and their formation, historic gem mining in the area, and the international rush for lithium and industrial minerals happening today, with a focus on two mining districts of Linopolis and Araçuai.

Paolo Sanchez is a PhD student in geochemistry at Caltech. Starting as a rockhound since kindergarten, Paolo’s interest in science has developed into a lifelong passion for minerals and other geological materials. Graduating from UC Berkeley with degrees in geology and geophysics, his PhD is advised by the late Dr. George Rossman and Dr. Claire Bucholz. His current research focuses on the formation and mineralogy of lithium-rich pegmatites, mineral synthesis and spectroscopy, and the chemical modeling of tektite glass. He is a member of several AFMS clubs, including the MSSC, and has won numerous grants and awards for his research in the geosciences.

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.

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From the Editor: Linda Elsnau.

Where does the time go? It’s already April! We have another interesting program scheduled for this month’s meeting and a special announcement about this year’s Sinkankas Simposium which is presented in honor of our own George Rossman.

Your 2025 MSSC Roster should be done in the next couple of weeks so keep your eyes open for it.

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From Our President Leslie Ogg

Growing up in the Los Angeles Harbor area, I spent my youth exploring the local tidepools in Palos Verdes. I did not learn about dolomite until I took introductory geology in college. We collected dolomite crystals on a local field trip to the Livingston Quarry off Forrestal Drive and also found dolomite in ocean tumbled rocks on the coastline. In the quarry, a basalt sill transects two sedimentary layers of the Monterey Formation, a Miocene marine formation.

Unfortunately, I could not find any dolomite (rock or mineral) in my collection for a photo.

Photo Credit Didier Descouens Wikimedia Commons

Dolomite, $CaMg(CO_3)_2$ is calcite, $CaCO_3$ altered by magnesium rich fluids. Dolomite is a little harder than calcite, and a little less reactive to hydrochloric acid. It is a trigonal crystal that forms rhombs with saddle shaped faces. It is used as a source of magnesium and magnesium oxide, and as flux in smelting iron and steel. It is also used to buffer pH in both soil and saltwater aquariums.

It was probably described by Carl Linnaeus in 1768 and named after geologist Déodat Gratet de Dolomieu in 1792.

It is somewhat confusing because there is also a rock type named dolomite aka dolostone. It is a sedimentary rock containing more than 50% dolomite. The rock is commonly used as aggregate for concrete and many of the same uses as the mineral dolomite.

Dolomite disc beads were found in the Bolsa Chica wetlands (24 miles south of Palos Verdes). They were described as coming from the Milling Stone Period (6500-1500BCE). I suspect that the bead material came from the Livingston Quarry.

MSSC had a field trip to Palos Verdes in 2018, you can read about it here.

Please don't forget to….
*Renew your membership now
**Volunteer for our Earth Day event
Thank you!

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MSSC Membership ZOOM Meeting Minutes, Friday, March 13, 2025

Meeting was called to order at 7:30 by President, Leslie Ogg. Leslie announced that this was the 1,048th Zoom membership meeting. There were 20 members and 4 guests in attendance.

Minutes of the February 13, 2026, membership meeting – David L. motioned to accept the minutes, seconded by Bert V. Motion carried.

The number of approved minerals species listed on the International Mineralogical Association (IMA) there are 6,203 approved mineral species.

Carolyn S. introduced guest speaker Glenn Waychunas who has been a guest speaker for us in the past and welcomed him back. Glenn presented a slide show of 'Fluorescent Minerals of Poudrette Quarry of Mount St. Hiliare, Quebec, Canada' showing the unique mineral diversity found there. He explained that the silica-poor, high-alkali conditions create optimal environments for exotic mineral formation. He discussed specific fluorescent minerals found at the site. The presentation included detailed explanations of mineral assemblages and their luminescent properties under different UV wavelengths, with Glenn Waychunas noting that Mount St. Hilaire specimens typically contain 6-10 different minerals in complex formations.

Glenn has also been on Bryan Swoboda's Mineral Talks Live and you can find the interview on-line at (https://share.google/Rfnr1sTHQdLr4B8AK).

Leslie O. reminded everyone that dues are due by March 15, 2026. Members can renew their dues later than that but will not be listed in the roster.

There is a CFMS survey we are asking members to respond to which can be found on our website. The survey is to get the CFMS members' input on a Southern California Lapidary Camp. Many club members in Southern California used to go to Camp Zzyzx but CFMS can't use those facilities anymore and would like to have a camp for the Southern California area.

MSSC is still looking for volunteers to sit at a table for a few hours and speak with visitors about minerals at the Natural History Museum of Los Angeles County on Earth Day, April 19, 2026. Those who volunteer receive free parking and admission. The exhibit Unearthed: Raw Beauty. which features many California specimens, will be there until 4/18/2027.

Marek C. reported he visited the Tucson Gem and Mineral Show.

Leslie O. said she is in contact with David Grossman who has minerals he is trying to get rid of. He has been trying to send her some photos of what he has and then the club can determine if they are suitable for our needs.

Leslie O said we need a new board member and a co-secretary since Ahni resigned.

Marek C. no field trips report. The group discussed plans the Earth Day Event April 19, with David L. agreeing to be the contact person for logistics and organizing a meeting to determine which members will participate and what materials/tools to bring.

The next Board Meeting will be on Sunday, May 3, 2026, via Zoom.

The next General Meeting will be on Friday, April 10, 2026, via Zoom.

Meeting Adjoined at 8:58 PM

Submitted by Marcia Goetz, Secretary

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With Knowledge Comes Appreciation!

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates::	ZOOM May8, 2026	**TBA**
	ZOOM June 11, 2026	**TBA**
	ZOOM July 8, 2026	**TBA**
Board Meeting	Sunday, May 3, 2026	ZOOM at 1:00 PM
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.

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

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Did We Just Discover Unobtanium on Mars?

Dear reader

In James Cameron's *Avatar*, the movie's plot revolves around a single, miraculous material with a very on-the-nose name.

Unobtanium.

Corporations and governments are willing to fight over this rare mineral buried beneath the alien forests of Pandora because of its extraordinary properties.

Of course, unobtanium is fictional.

But every so often, real-life scientists discover something in space that makes you wonder whether nature might actually produce its own version of something similarly exotic.

Like last week, when researchers studying Mars uncovered something unusual hiding inside ancient Martian rocks.

It might not be a miracle substance…

But it's definitely a new form of matter we've *never* seen before.

The Strange Mineral Hidden in Martian Rocks

The discovery comes from scientists analyzing layered sulfate deposits near Valles Marineris, a massive canyon system that stretches more than 2,500 miles long, up to 120 miles wide and nearly five miles deep across the Martian surface.

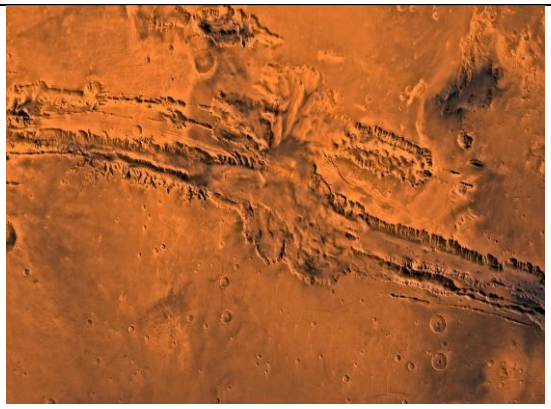

Image: NASA/JPL-Caltech/USGS

Using a combination of laboratory experiments and orbital data from the Mars Reconnaissance Orbiter, launched back in 2005, researchers identified an unusual mineral phase called ferric hydroxysulfate.

In simple terms, they discovered a new crystal form of iron sulfate, a different atomic arrangement of the same basic ingredients. It appears to have formed through a two-step process.

First, ancient water left behind large sulfate deposits more than 3 billion years ago, when Mars still had liquid water on its surface.

Later, volcanic or geothermal heat altered those deposits, transforming their chemistry and creating this new iron-rich compound.

That makes ferric hydroxysulfate interesting to planetary scientists because it tells a story about Mars. It suggests the red planet once had a combination of water, oxygen and heat, which are all conditions associated with hydrothermal environments.

In other words, the kinds of places where life might once have existed.

That alone makes this an exciting find, even though ferric hydroxysulfate is mostly a scientific curiosity at the moment.

Researchers are studying it as a geochemical tracer, which helps reconstruct Mars' environmental history.

But if scientists manage to synthesize the material in laboratories on Earth, it could potentially behave like other iron hydroxides and sulfates that are already widely used.

And materials in this family already play an important role here on Earth.

Municipal water treatment systems around the world use iron-based compounds to remove contaminants like arsenic and phosphates from drinking water, sometimes eliminating more than 99% of dissolved arsenic. They can also be used to stabilize toxic metals in soil and groundwater and even function as catalysts or absorbent materials in industrial processes.

So ferric hydroxysulfate could eventually prove useful on our planet...

Even if it's unlikely to revolutionize the economy like unobtanium did in *Avatar*.

For me, this discovery also raises a fascinating question: If Mars can produce minerals we've never seen before, what other unusual substances might exist elsewhere in the solar system?

After all, space has already proven to be full of surprises, as the residents of northern Ohio recently learned.

Over the past few decades, scientists have discovered several materials in meteorites and asteroids that you simply don't encounter on Earth.

For example, in 2023, scientists analyzing fragments of the Mundrabilla meteorite identified microscopic superconducting alloys composed of lead, indium and tin that lose electrical resistance at temperatures around 5 kelvins, or roughly −450°F.

These materials can carry electricity without resistance at extremely low temperatures.

Image: Wikipedia Commons

They're not commercially useful yet, but they demonstrate how the extreme environments of space can produce unusual combinations of elements and crystal structures that are rare or unstable on Earth.

Asteroids are another example of how our solar system can produce materials we rarely see on Earth.

Image: NASA/JPL-Caltech

Many metal-rich asteroids contain extraordinarily high concentrations of platinum-group metals, including platinum, palladium and rhodium.

Some estimates suggest that a single metallic asteroid about 500 meters wide could contain more platinum than has been mined throughout human history.

Then there are high-pressure mineral phases like the one that was just discovered on Mars.

Laboratory experiments can now simulate pressures of hundreds of gigapascals, comparable to the extreme pressures found near Earth's core. When scientists recreate this intense pressure, they've discovered that familiar elements can take on completely different structures.

Carbon, for instance, can form exotic diamond phases that are far more stable than the diamonds we see at Earth's surface.

This tells us that nature's periodic table can become a lot more creative under extreme conditions.

Which means space could contain entire categories of materials we haven't even imagined yet.

Here's My Take

On Earth, minerals form under relatively narrow ranges of pressure, temperature and chemistry.

But space offers a far wider playground.

Inside asteroids, metals can slowly crystallize in vacuum for millions or even billions of years. In fact, some meteorites preserve crystals that formed before Earth itself existed.

During planetary impacts, minerals experience pressures higher than those at the center of our planet. And deep within massive worlds, elements are forced into structures that simply can't survive near Earth's surface.

These extreme conditions can produce strange alloys, unusual crystal structures and ultra-pure deposits of valuable metals.

Of course, this newly found ferric hydroxysulfate isn't going to power the next technological revolution.

But while we haven't found unobtanium yet, space is already showing us that exotic materials *are* possible.

And discoveries like this Martian mineral are a reminder that our fascination with space isn't just about satellites and rockets.

It's also about discovery.

And the more we explore our cosmic neighborhood, the more surprises we're likely to uncover.

Regards,

Ian King

Chief Strategist, *Banyan Hill Publishing*

Note: Ian King is a former hedge fund manager with more than two decades of experience trading and analyzing the markets. He's featured on Fox Business, Investopedia and Seeking Alpha.

Today, Ian helps everyday investors get ahead of major market trends through his research at Banyan Hill, including his free *Daily Disruptor* articles like this one. Click here to learn more about Ian's latest market insights

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View as Webpage

Twentieth Sinkankas Symposium
Gems & Minerals of Burma (Myanmar)

Saturday, April 25, 2026

GIA worldwide headquarters
and Robert Mouawad Campus
Carlsbad, California

Early Registration: **$185.00**
Early-Bird Deadline: **4/3/2026**

Registration: **$200.00**
Final Deadline: 4/24/2026, noon PDT

sinkankassymposium20.eventbrite.com

Issues with registration?
Contact: **phammers@gia.edu**

Ruby in marble matrix from Baw Badan, Mogok. Courtesy of Bill Larson, Photo: Robert Weldon.

co-sponsored by
Gemological Institute of America and the Geo-Literary Society

View details & the timeline of the all-day event
at the official website: sinkankassymposium.net

The theme of the Twentieth Sinkankas Symposium is Gems & Minerals of Burma (Myanmar). The one-day event features 10 speakers on topics related to one of the most storied gem-producing regions of the world. **This year's event and proceedings are dedicated to Professor George R. Rossman.**

Space is limited and is available on a first-come, first-served basis. Registration includes one complimentary copy of the printed proceedings, morning and afternoon refreshments, and box lunch on-site. A reception in the GIA rotunda follows. The venue also features an exhibition of "Temples & Treasures of Southern Asia" and booksellers will have specialty publications on gem and minerals available for purchase.

Pre-Order all 10 issues
of the Sinkankas Symposium proceedings
(2014-2026)

Pre-Ordering Deadline:
April 8, 2026, 11:59 PM PDT
Order direct from the print house at:
sinkankas.dpidirect.com
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*Orders ship on or about May 19, 2026 (worldwide)*
Questions about orders? Contact: SinkankasSupport@dpidirect.com


**Available issues:**
**2026 – Gems & Minerals of Burma (Myanmar)**
2023 – San Diego County Gems and Minerals
2022 – Alexandrite and Other Color-Change Gems
2021 – Agate and Chalcedony
2019 – Pearl
2018 – Tanzanite and Tsavorite
2017 – Sapphire
2015 – Opal
2014 – Peridot and Uncommon Green Gem Minerals
2013 – Ruby (rev. ed. 2014)

The Sinkankas Symposium proceedings have always been short print runs based on demand -- only enough books were printed for attendees of the annual event. In recent years, a wider audience has expressed interest in obtaining back issues, so the print house, DPI Direct, is producing a short run of issues dating from 2014 to 2026.

To make the books affordable, they may be pre-ordered for a limited time period. They will not be available for purchase after April 8, 2026.
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Twentieth Sinkankas Symposium
Gems & Minerals of Burma (Myanmar)

Stuart Overlin and Lisbet Thoresen, editors
Photographs by Mia Dixon, Jeffrey Scovil, Harold & Erica Van Pelt, Orasa Weldon and Robert Weldon

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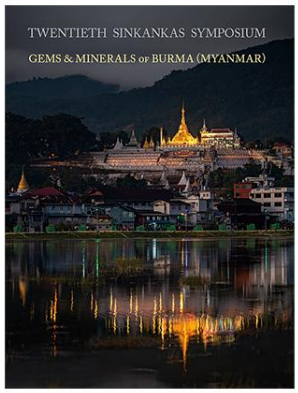

San Diego Mineral & Gem Society
A Non-Profit Educational and Scientific Organization

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

The remainer of the 2025-2026 Watson Lecture series has been postponed.
Due to unforeseen maintenance at Beckman Auditorium, the Watson Lectures are postponed until further notice. All registrations for the remainder of the season will be cancelled. We apologize for the inconvenience and appreciate your understanding. Find past lectures on Caltech Watson Lecture Series - YouTube

The **Von Kármán Lecture** is on Thursday, **April ??** at 5:00 PM. Available live on YouTube at NASA Jet Propulsion Laboratory - YouTube. Date, speaker, and topic were not available at time of publication. Check website for information and past lectures Lecture Series (nasa.gov). Previous lectures are available on YouTube.

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

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Calendar of Events:

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

2026 Shows

April 18-19, 2026 – Thousand Oaks, CA
Conejo Gem and Mineral Club
Borchard Community Center, 190 N. Reino Road, Thousand Oaks 91320
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM.
FREE ENTRY; FREE PARKING
Website: www.CGAMC.org

April 25-26, 2026 – Anaheim
Searchers Gem and Mineral Society
Brookhurst Community Center, 2271 W. Crescent Ave., Anaheim, CA 92801
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4:30 PM
Free entry, free parking.. Please, no pets. Service animals only.
Website: http://www.searchersrocks.org

April 25-26, 2026 - Atascadero, CA
Atascadero Colony Park Comm. Center, 5599 Traffic Way, Atascadero, CA 93422
Santa Lucia Rockhounds
Hours: Sat 10am-5pm; Sun 10am-4pm
The 32nd Annual Rock, Fossil & Gem Show,
Website: slrockhounds.org

May 1-3, 2026 - Vista, CA
Antique Gas and Steam Engine Museum, 2040 North Santa Fe, Vista, CA 92083
Vista Gem and Mineral Society
Hours: Fri & Sat: 10am-5pm; Sun, 10-4
Spring Gem & Mineral Jewelry Show. Website: vistarocks.org

May 1-2, 2026 – Yucaipa, CA
Yucaipa Valley Gem &* Mineral Society
Located on Yucaipa Blvd., in Yucaipa, CA 92399
Hours: Fri 12 Noon – 9 PM, Sun 6 PM – 10 PM
Website: http://www.yvgms.org/

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

Wulfenite: from Red Cloud Mine, La Paz Co., Arizona, USA. Courtesy of: Evan A Jones. Photo by: Tom Spann

2026 MSSC Officers:

OFFICERS		
President	Leslie Ogg	*president@mineralsocal.org*
Vice President	Renee Kraus	*vicepresident@mineralsocal.org*
Secretary	Marcia Goetz	*secretary@mineralsocal.org*
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Past President	Angie Guzman	
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2025--2026	David Lesperance	
2025--2026	vacant	
2026-2027	Pat Caplette	
2026-2027	Bert Vogler	
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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 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.**

MSSC Bulletin
3630 Encinal Ave.
Glendale, CA 91214

To:

With Knowledge Comes Appreciation

Your MSSC Bulletin Is Here!