

Bulletin of the Mineralogical Society of Southern California

Volume 96 Number 4 –April, 2023

The 1,012th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting

April 14, 2023 at 7:30 P.M.

**Program: Zinc Mining In The Friedensville Mining District And The Birth Of
The U. S. Zinc Industry Presented By: L. Michael Kaas**

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About the Program:

Zinc Mining In The Friedensville Mining District And The Birth Of The U. S. Zinc Industry Presented By: L. Michael Kaas

In 1853, the small mining town of Friedensville, Pennsylvania, and Bethlehem, located 4 miles to the north, became the centers of commercial production of high-purity zinc oxide in the U. S. In the early 1860's, a new zinc smelter in Bethlehem, using Friedensville ore, produced the first commercial zinc metal in the U. S. Under the leadership of such notable figures as Samuel Wetherill, Joseph Wharton, and others, the mines operated until 1893.



The first and largest of the historic Friedensville mines was the Uberroth, named for the farm owner on whose land the ore was discovered. Early mining of the surface ore, primarily hemimorphite and smithsonite, was relatively easy; however, deeper mining was fraught with dangerous conditions and an immense inflow of water. The deeper ore was primarily sphalerite. Dealing with these challenges required a unique mix of practical Cornish mining skills and American engineering and manufacturing expertise. The most notable example is “The President,” the largest stationary steam pumping engine in the world when it was installed in 1872. The high cost of pumping water from the mines eventually caused them to close in 1893. The President was scrapped shortly thereafter; however, its huge Cornish engine house still exists.

When mining stopped in 1893, there was plenty of ore still in the ground at Friedensville. Exploration by the New Jersey Zinc Company eventually led to the rebirth of the mining district in 1958 with the opening of the underground Friedensville Mine. Using bulk mining and modern milling technology, the mine operated until 1983. Since mine closure, much of the New Jersey Zinc property has been redeveloped for non-mining uses. Significant traces of the mining history remain including The President Engine House at the Uberroth Mine on land now owned by Lehigh University. Efforts are currently underway to preserve the engine house in a mining heritage park.

Michael Kaas is a retired mining engineer whose career included employment with the U. S. Bureau of Mines, Office of the Secretary of Interior, IBM Corporation, and several mining companies. He received a BS degree in mining engineering from The Pennsylvania State University and a MS degree in mineral engineering from the University of Minnesota. He was an early innovator in the development of computer applications for the mining industry. During his 20 years at the Bureau of Mines, he was responsible for programs in minerals information and analysis, resource evaluation, mineral land assessment, and environmental research. He is the author of several technical and mining history papers.

He is a member and past Director of the Society for Mining, Metallurgy, and Exploration (SME) and a member and Web Coordinator of the Mining History Association (MHA). He serves as a docent at the Smithsonian Institution's Natural History Museum, Geology, Gem, and Mineral Hall, and is a member of the Board of Governors of the National Mining Hall of Fame.

Starting as a rockhound as a kid, he has had a lifelong interest in minerals and mining history. His current mining history research concerns mines and mineral processing plants in the eastern states with a particular focus on those that supported the supply chains for both sides during the Civil War era.

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 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.

Well, here we are at April, 2023. Lets hope it's the March showers that bring May flowers this year. We don't really need any more rain this month! I hope everyone is still dry and safe after all of this spring's rain.


Our April meeting looks to be an interesting one and I want to thank our program chair for finding such interesting and varied speakers.

From Our President,

Welcome to April 2023. There are several upcoming events you may have an interest in to attend. Please check the **Calendar of Events** later in this Bulletin

Credit where credit is due: MSSC officers, board members and committee chairs all do wonderful work and I, for one, want to acknowledge their support for our society. Without them, MSSC would not function as smoothly as it does. So, Thank You! All of you! Keep up the good work!

Show N' Tell: Last month, Marek Chorazewicz put together another wonderful field trip. We went to Tick Canyon, up to the borate mine (closed) grounds. It was a rare sunny day and there were about 15 people who braved the muddy hills and valleys. It was great fun, exhausting but fun. Here's my "Show N' Tell" prize, *probertite*. It was calling to me, so, of course, I picked it up. I am still in awe of how minerals and rocks amaze me with their beauty and grace. Enjoy!

	<p>PROBERTITE</p> <p>Chemical Formula: $\text{NaCa}[\text{B}_5\text{O}_7(\text{OH})_4] \cdot 3\text{H}_2\text{O}$. (per Mindat)</p> <p>Probertite is colorless, white; colorless in transmitted light. It has a hardness is 3.5 and a luster that is vitreous. The streak is white, it's satiny and has perfect cleavage.</p> <p>The mineral is named in honor of Frank H Probert, Dean of Mining College, UC Berkeley.</p> <p>It was first described prior to 1959, accordingly was IMA approved and "grandfathered".</p> <p>This specimen was collected in Tick Canyon by Angie Guzman while on MSSC's Field Trip March 12, 2023. It is approx. 3 cm tip to top and 1.5 cm across.</p> <p>It's a beautiful specimen, delicate and fragile.</p>
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(Photo: A. A .Guzman)

MINUTES of the March 10, 2023 ZOOM Meeting

From the President (Angie Guzman)

1. President Guzman welcomed all present to the 1,011th membership meeting of the MSSC and the 34th via our ZOOM conferencing license.
2. She asked for guest to introduce themselves; there were no guests present.
3. She then asked for a current count of total mineral specimens. Tony Kampf stated that per the IMA, the International Mineralogical Association, there are currently 5901 valid species of minerals.

4. The 19th Annual Sinkankas Symposium will be held April 22, 2023, in Carlsbad, California at the GIA Headquarters. Among the prestigious speakers is our very own Dr. George Rossman. Please check the Symposium's website for more information at sinkankassymposium.net, or, to register, go to <https://sinksymp2023.eventbrite.com>

5. Fallbrook Gem & Mineral Society will host their Annual Rough N' Cut event on March 18, 2023, from 1:00 – 4:00 pm. This is their sale of overstock treasures.

6. The update to Mojave Trails National Monument, written by Angie Guzman, that was published in MSSC's March 2023 Bulletin has just appeared in the San Diego Mineral and Gem Society newsletter, The Pegmatite. Antelope Valley Gem & Mineral and Sierra Pelona Rock Club (Santa Clarita) also asked to reproduce the article. President Guzman gave permission to do so.

A. Regular Business

President Guzman asked for approval of the February 17, 2023, Membership Meeting Minutes as published in the March 2023 Bulletin. Motion to approve was made and seconded. There were no corrections or additions. Minutes were approved unanimously.

B. Reports/Announcements

1. Field Trip (Marek C.): Information on the upcoming Tick Canyon trip on Sunday, March 12. The trip is still on. I'll be there on Sunday morning, will bring my rain jacket just in case. The forecast predicts a low 20% chance of showers. Also, rain on Friday, not snow, so no snowshoes will be necessary. Dress in layers, it will be cold early, then the sun will start baking. Also please remember the clocks move forward 1 hour on Sunday 2 AM! If you get there late find us on the dumps over the hills to the north.

2. Summer Social - Picnic (Angie Guzman): Simona Cianciulli provided another suggestion for our Summer Social in August, Tournament Park at Caltech. There is lots of shade, it is safe, has restrooms, sinks, tables and even BBQ. She offered to check on rental prices and availability. It's another option the Board will discuss at their April meeting. If you have another suggestion, please contact a Board member.

3. Update on Speakers (Rudy Lopez): Sarah Milkovich will not give the Mars update as she will be on sabbatical. A replacement from JPL will give the talk.

C. Speaker Introduction (Rudy).

Rudy Introduced the speakers presenting "Jurupa Mountains Discovery Center", AKA JMDC; Wes Andrée, Executive Director and Virginia Odom, Education Coordinator.

D. Program and Q&A

Wes Andrée started out talking about the Virtual Reality (VR) dinosaur trek/hunt activity that is new at the 6000 square foot museum. Rudy turned the screen over to Wes who proceeded to take us on a remote trip to the museum. He then turned the program over to Ginny the education coordinator who stated that they give school field trips to 16,000 kids per year. Ginny led us through the museum (which I will try to summarize), while Wes manned the camera.

The first stop was the main rock types (igneous, metamorphic, and sedimentary) with good examples of all types. A former museum curator Chris Gentile had a display of the ages of rocks using fossils. Next, we were off to the part most of us are the most interested in, the minerals! We "walked" through a nice mineral and sphere collection. The next stop was the extensive fossil collection. There are originals and reproductions. A sample of what we saw: ammonites, fish (Green River), turtles, birds, and some plants. Trilobites (Cadiz) and then dinosaur fossils, their poop (coprolites), and eggs, that were x-rayed and found to have embryos inside, and some fighting dinosaurs.

Ginny then led us to the Ice Age where we saw a Woolly Mammoth femur and tusks. Also in the collection: horses, bears, and bearded dogs.

Rudy took over with a slideshow overview of the JMDC. The beautiful grounds house a large collection of cacti with life size dinosaurs roaming among them. They also have the Granite Hills Nursery on site where you can purchase cacti and succulents. There are several nice picnic areas, a reptile area and insects and frogs in the live animal displays.

Wes gave us a tour of the large store where there are many minerals, rocks, and fossils on sale; many at entry level prices for the young collectors. There are books for teachers, and lots of microminerals too!

They are open Monday through Friday for school groups, it is a closed campus so students can roam safely. The public can visit on the weekends from 9 AM to 3 PM.

For more information go to their website <https://jmhc.org>

E. Adjournment

There was no other business, so the president adjourned the meeting at 8:52 p.m.

Submitted by Leslie Ogg, MSSC Secretary

List of Upcoming MSSC Events : Mark your Calender!

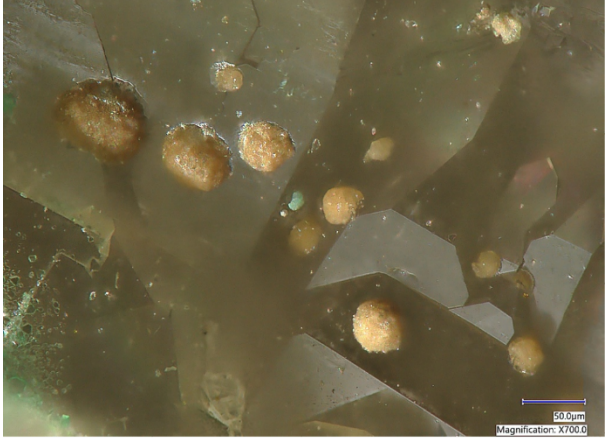
Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	ZOOM May 12, 2023	Bob Thomas: Prospecting Death Valley by Steam Car in 1906
	ZOOM June 9, 2023	Dr. Milkovich, Sarah: MARS UPDATE
	ZOOM July 14, 2023	Paolo Sanchez: Lazurite of Cascade Canyon, California
Board Meeting	ZOOM April 30, 2023	ZOOM at 1:00 PM
Field Trip	TBA	

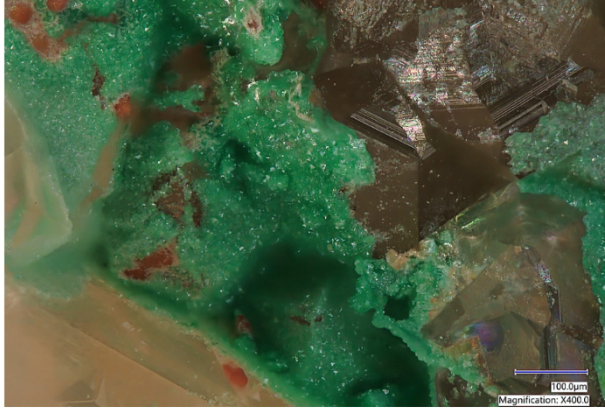
Note: Dates and programs shown above are subject to change. Check your bulletins to confirm final information each month.

With Knowledge Comes Appreciation !

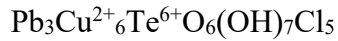
The Ride Share Listing is being temporarily discontinued until such time as MSSC starts holding in-person meetings again.

A Peek Into the 2023 MSSC Micro Mineral Conference, Thank you Marek Chorazewicz
Marek sent me the following pictures from the last Conference for our enjoyment:

	<p>Backite Pb₂AlTeO₆Cl Locality: Aga Mine, Otto Mountain, Baker, Soda Mountains, Silver Lake Mining District, San Bernardino, Co, CA</p> <p>Closeup on sparkly tan Backite balls on quartz. Some reflections from tiny backite crystals can be seen at the edges of the hemispheres. In the lower-left corner, there is a small fuettererite incursion.</p> <p>Identified by Dr. Housley with Raman spectroscopy at Caltech Geoplanetary lab in Pasadena, CA. Michael Cox took the picture on Keyence digital microscope at Pacific Micro Mineral Conference, Jan 2023.</p> <p>Field of View: 500 µm</p>
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Fuettererite



Locality: Aga Mine, Otto Mountain, Baker, Soda Mountains, Silver Lake Mining District, San Bernardino, Co, CA

Red Backite balls with blue-green **Fuettererite** on quartz crystals. This is the first confirmed find of these two extremely rare hexavalent tellurium oxysalts minerals from the Aga mine. They have been found at other Otto Mtn localities but not there. Associated with yellow-green bairdite platelets, tan backite balls, and green-blue paratacamite crystals, not shown here.

Identified with Raman spectroscopy at Caltech Geoplanetary lab in Pasadena, CA. The picture was taken by Michael Cox on Keyence digital microscope at Pacific Micro Mineral Conference, Jan 2023.

Field of View: 750 μm



Photo ©M. Chorazewicz

OTHER FREE THINGS TO DO...by Ann Meister

The **UCLA Meteorite Gallery** is open. Check the website for hours. The monthly lecture will be presented via Zoom on Sunday, **April 16** at 2:30 PM. The speaker is Dr. Marc Fries, NASA/ISC. The title is **“Rapid Meteorite Recovery in Recent Meteorite Falls.”** Meteorite falls occur on a regular basis every year. On average the United States has seen a little more than one meteorite fall per year since 1995, but that cadence can show variability. For example, no falls occurred between 2019-2021, but several events occurred over the past year in Cranfield MS, Junction City GA, Muskogee OK, El Sauz TX, and another event into Lake Ontario. Remarkably, the El Sauz fall was the third fall in a three-day period, following on meteorite falls in France and Italy. This talk will describe how meteorite falls are located and recovered, why it is important to recover them quickly, and what we learn from meteorite falls in general. 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. This meeting is only accessible through the desktop and mobile client. Visit the website and check on events and videos and other neat things about meteorites, go to <https://meteorites.ucla.edu>

The **Watson Lecture** at Caltech’s Beckman Auditorium is on Wednesday, **April 19** at 7:30 PM, or you can view the livestream at [Caltech Watson Lecture Series - YouTube](#). By entering the auditorium, attendees attest to being fully vaccinated or having a legal medical exemption. Masks are optional inside Beckman Auditorium.

The speaker is Karthish Manthiram, Professor of Chemical Engineering and Chemistry, Caltech. The title is **“Electrifying and Decarbonizing Chemical Synthesis.”** There is a significant carbon footprint behind the physical world, including the fabrics we wear, the foods we eat, and the disinfectants we spray. This problem presents the need to find ways to synthesize chemicals and materials in a sustainable manner that eliminates greenhouse gas emissions from these products. In this lecture, Manthiram will discuss how his lab is developing an approach that uses electricity to convert air and water into the useful chemicals and materials we rely on every day. *Find more past Watson Lectures on [Caltech's YouTube channel](#).*

The **Von Kármán Lecture** is on Thursday, **April 20** at 7:00 PM. Available live on YouTube at [NASA Jet Propulsion Laboratory - YouTube](#). The speaker is Dr. Robert Green, Principal Investigator, EMIT, NASA/JPL. The title is **“Earth Surface Mineral Dust Source Investigation (EMIT) Mission.”** When strong winds on one continent stir up mineral rock dust, those airborne particles can travel thousands of miles and affect entirely different continents. The suspended dust in the air can heat or cool the atmosphere and Earth’s surface. That heating or cooling effect is the focus of NASA’s Earth Surface Mineral Dust Source Investigation (EMIT) mission, which will measure the surface composition of Earth's deserts and arid regions, helping us understand the impacts dust has on the planet's climate. EMIT’s versatile imaging spectrometer can also help map super-emitters of methane – a powerful greenhouse gas – from space, and is already contributing to meaningful climate action.

Calendar of Events:

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

April 1-2, 2023 – Vista, CA

Vista Gem and Mineral Society
Antique Gas and Steam Engine Museum, 2040 N.
Santa Fe Ave., Vista, CA 92083
Hours: Sat 10 AM -5 PM, Sun 10 AM – 4 PM
Website: <https://vistarocks.org>

April 8-9, 2023 – Pearblossom, CA

The Outpost
34141 116th Street E
Pearblossom, CA 93553
Hours. 10am-5pm daily

April 22-23, 2023 – Thousand Oaks, CA

Conejo Gem & Mineral Club
46th Pageant of a Thousand Gems
Borchard Park, 190 N. Reino Rd.,
Thousand Oaks, CA
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM
Website: <https://cgamc.org>

April 29-30, 2023 – Anaheim, CA

Anaheim Searchers Gem & Mineral Society
Brookhurst Community Center,
2271 W. Crescent Ave., Anaheim CA
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4:30 PM
Website: <https://www.searchersrocks.org/>

May 5-6, 2023 – Yucaipa

Yucaipa Valley Gem and Mineral Society
Yucaipa Blvd at Adams Street, Yucaipa, CA 92399
Hours: Fri 6 PM - 10 PM, ; Sat Noon to 10 PM
Website: <https://www.yvgms.org/>

May 6-7, 2023 – Lancaster, CA

Antelope Valley Gem and Mineral Club
Antelope Valley Fairgrounds,
2551 West Ave. H, Lancaster, CA 93536
Hours: Saturday & Sunday 10 AM – 5 PM
[flyer: antelopeshow](#)

June 10-11, 2023 – Escondido, CA

Palomar Gem and Mineral Club
The Convention Center at the California Center for
the Arts – 340 North Escondido Blvd,
Escondido CA 92025
Hours: Sat 10 AM – 5 PM, Sun 10 AM – 4 PM
Website: <http://palomargem.org>

June 17, 2023 – Bellflower, CA

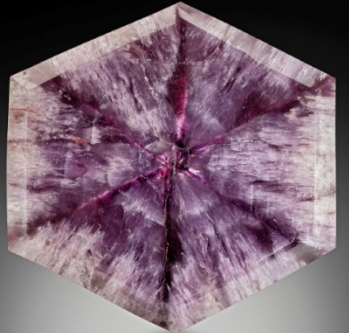
Delvers Gem & Mineral Society
DELVERS PARKING LOT SALE,
14515 Blaine Ave., Bellflower, CA 90706
Hours: 10 AM – 4 PM
Website: <https://delversgemclub.wordpress.com/>

JUNE 23-25, 2023 – LODI, CA
CFMS Show And Convention
Lodi Grape Festival Grounds,
413 E. Lockeford St., Lodi, CA 95240
 Hours: Fri & Sat 10 AM – 5 PM,
 Sun 10 AM – 4 PM
 Adults \$6, Kids 12 & under FREE
 Free admission to Military.

July 8-9, 2023 – Culver City, CA
 Culver City Gem and Mineral Society
 Culver City Veteran’s Memorial Auditorium, 4117
 Overland Ave., Culver City, CA 90203
 Hours: Sat 10 AM – 6 PM, Sun 10 AM – 5 PM
 Website: <http://culvercityrocks.org/fiesta/>

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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	
<p>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</p>			

WEST COAST GEM & MINERAL SHOW



Trapiche amethyst from Rondonia, Brazil. Photo: Jeffrey Scovil.

Holiday Inn-Orange County Airport

2726 South Grand Avenue ♦ Santa Ana, CA 92705

May 5, 6, 7, 2023

10 am – 6 pm Friday & Saturday | 10 am – 5 pm Sunday
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Vice President	Cheryl Lopez	vicepresident@mineralsocal.org
Secretary	Leslie Ogg	secretary@mineralsocal.org
Treasurer	Carolyn Seitz	treasurer@mineralsocal.org
CFMS Director	Angie Guzman	
Past President	George Rossman	
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2022-2023	Pat Caplette	
2022-2023	Ahni Dodge	
2023--2024	Simona Cianciulli	
2023--2024	David Lesperance	
2023--2024	Pat Stevens	
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Bulletin Editor	Linda Elsnaue	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

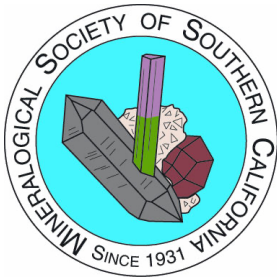
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MSSC Bulletin Editor
3630 Encinal Ave.
Glendale, CA 91214-2415

To:



**With Knowledge Comes
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**Your MSSC
Bulletin Is
Here!**