

Bulletin of the Mineralogical Society of Southern California

Volume 95 Number 5 – May, 2022

1,001st meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

A ZOOM Meeting

May 13th, 2022 at 7:30 P.M.

Program : The Silver Hill Mine: America's First Silver Mine and Supplier of Lead to the Confederacy Presented by L. Michael Kaas

In this Issue:

<i>TITLE</i>	<i>Page</i>
Program: The Silver Hill Mine: America's First Silver Mine and Supplier of Lead to the Confederacy Presented by L. Michael Kaas	2
From the Editor: Linda Elsnau	2
From the President; Interesting Minerals, A to Z. Round 2, installment 26, the letter "Z": by George Rossman	3
Minutes of the May 8, 2022 Meeting	6
Minutes of the April 3, 2022 Board Meeting	13
List of Upcoming MSSC Events	15
Thank you letter from The Hudson Institute of Mineralogy DBA Mindat.org	16
Other Free Things To Do...by Ann Meister	16
Calendar of Events	17
Featured Mineral of the Month: Aragonite	18
2022 Officers	19
About MSSC	19

Remember: If you change your email or street address, you must let the MSSC Editor and Membership Chair know or we cannot guarantee receipt of future Bulletins

About the Program: The Silver Hill Mine: America's First Silver Mine and Supplier of Lead to the Confederacy Presented by L. Michael Kaas

The Silver Hill Mine in Davidson County, North Carolina was the first important underground silver mine in America. Discovered in 1838, it produced significant quantities of native silver and lead (cerussite) into the mid-1840's. As the mine deepened, the oxidized ores were depleted but abundant, rich, lead-zinc sulfide ores (galena and sphalerite) were encountered. These complex ores presented the mine operators with difficult metallurgical problems. Mine development and production slowed. Nearly a decade passed as the owners experimented with new processing and smelting technologies. These efforts were largely unsuccessful and the mine closed in the early 1850's. In 1858, the mine was purchased and reopened by Franklin Osgood of New York.

The Civil War created an urgent need for lead to supply Southern troops. The Confederate government took over operation of the Silver Hill Mine to provide an alternate source of lead in case the mines at Austinville, Virginia should fall into Northern hands. Lead concentrates with high silver values were shipped from Silver Hill to the newly constructed Confederate smelter in Petersburg, Virginia.

After the war, Osgood regained possession of the mine and continued to operate it for several years to supply his Bergin Point Zinc Company in New Jersey. When reserves were depleted, the mine closed. For more than a century after production stopped, the Silver Hill Mine was the repeated target of both mining and exploration companies and stock promoters.

Mineral specimens from Silver Hill are difficult to find. Most are in museums and old collections. Anyone with specimens from the Silver Hill Mine (AKA the Washington Mine) is encouraged to share them during the meeting.

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.

How to Join our ZOOM Meetings by Rudy Lopez

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

For non MSSC Members who want to join this meeting. You must respond to our Programs chair, Rudy Lopez at programs@mineralsocal.org no later than Tuesday March 8, 2022. Please include "March 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

Wow, I want to start off by thanking George, Angie and Rudy for all the work they did putting together the program for our 1,000th meeting. I'm sure it was a lot of work and is well appreciated.

The program this month on the Silver Hill Mine also looks like a good one not to miss. Our program Chair is doing an excellent job of finding outstanding speakers for our meetings.

On another subject, several MSSC members have started getting together for lunch every other month. The next get together dinner will be on Saturday, June 11, 2022 at 5pm at Kathleen's on Lake Ave in Pasadena. If you are interested in joining them, contact Ahni Dodge at ahni@me.com so she can make the reservation for the correct number of attendees.

FROM THE PRESIDENT: Interesting Minerals, A to Z. Round 2, installment 26, the letter “Z”: by George Rossman

Zircon, ZrSiO_4

The mineral name of this zirconium silicate has been known since antiquity and its name predates any formal descriptive publication.

Several things strike us about zircons. First of all, they occur in a splendid array of colors. In **Figures 1-7** we see some of the many colors of zircon.

		
Figure 1. Pale-brown zircon from Mogok, Myanmar. Photo Credit: GRR	Figure 2. Brownish-red zircon from Chanthaburi, Thailand, colored by radiation damage. Photo Credit: GRR	Figure 3. A red zircon from Mogok, Myanmar. Photo Credit: GRR
		
Figure 4. Yellowish-green zircon from Sri Lanka. Photo Credit: GRR	Figure 5. A bluish-green zircon from Mogok, Myanmar. Photo Credit: GRR	Figure 6. Blue zircon from Burma, near the Thailand border. This crystal may have been heat-treated to change its color. Photo Credit: GRR
		
Figure 7. A 1.4 mm thick slice of a zircon from Sri Lanka. Photo Credit: GRR	Figure 8. Colorless, high purity, synthetic zircons. Photo Credit: GRR	Figure 9. Nearly colorless zircons from Cambodia. Photo Credit: GRR

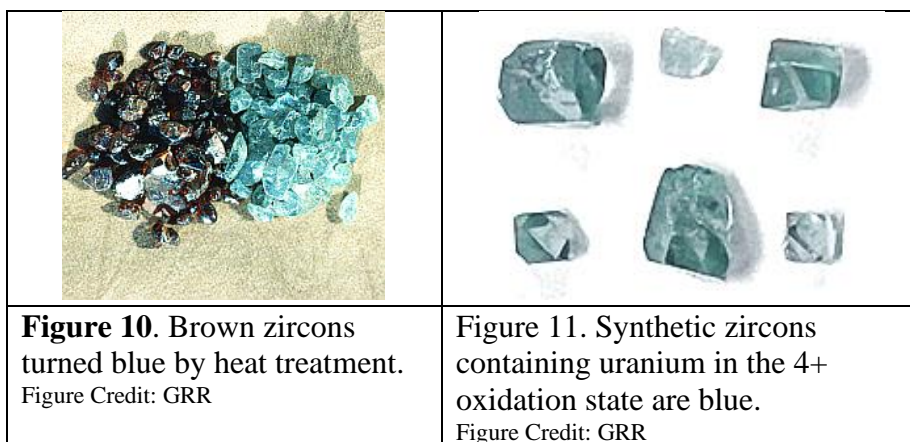
To examine the origin of these colors, we first must ask the question of what color would a zircon be if it had the ideal end-member formula? We can determine that by making zircons synthetically. Chase and Osmer did that at the Aerospace Corporation in El Segundo, CA, back in the 1960's. What they made

were completely colorless crystals (**Figure 8**). Do natural zircon crystals occur colorless? Yes, they often do. Examples of nearly colorless crystals appear in **Figure 9**.

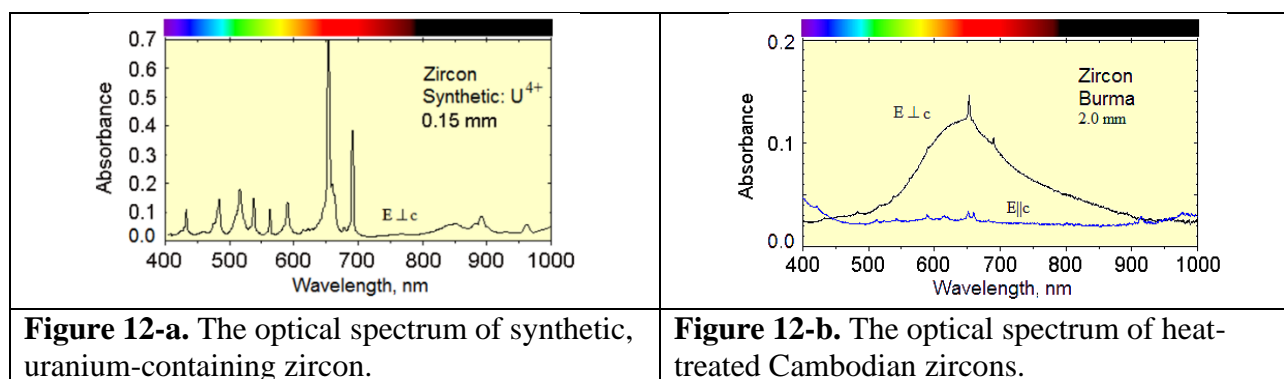
Chase AB, Osmer JA (1966) Growth and Preferential Doping of Zircon and Thorite. J. Electrochemical Society 113:10.1149/1.2423904.

For many years, brown zircons from north-eastern Cambodia have been routinely heated to produce a bright blue color when heated under reducing conditions in the 900-1000°C range. Now, we must ask, why do the heated zircons turn blue as shown in Figure 10. We get a partial answer when we look at some of the synthetic crystals that Chase and Osmer grew that were doped with minor amounts of different elements. Notably, synthetic zircons doped with uranium were blue (Figure 11).

Next, we use optical spectroscopy to further examine the origin of the color of the zircons. The spectrum of the uranium-doped synthetic zircons (**Figure 12 a,b**), shows a series of sharper absorption features that we recognize as coming from uranium in the 4+ oxidation state. Next, we compare the spectrum of the synthetic uranium-containing zircons to the blue zircons that come from the heat-treatment process. These heat-treated blue zircons do show evidence of uranium in the 4+ oxidation state in their optical absorption spectra, but they also have an additional broad absorption



feature centered near 650 nm that removes much of the yellow, orange and red wavelengths. To this day, the detailed atomistic origin of this broad feature in the spectrum remains unknown. Interestingly, brown zircons from Australia do not turn blue upon heating.



While blue zircon does exist in nature, it is a comparatively rare color. Currently, I am not aware of any means available to reliably distinguish between the naturally-occurring and heated counterparts.

The uranium in the zircon undergoes natural radioactive decay. When the uranium atoms decay, ultimately to lead (Pb), they emit energetic particles and photons that slowly destroy the internal structure of the zircon if there is a significant concentration of them. We call the process metamictization and we call such damaged zircons ‘metamict zircons’. The metamictization process darkens the color of the zircons to the point that heavily damaged zircons are black (**Figure 13**).



Figure 13. A black metamict zircon that is radioactive from its U-content
Photo credit: GRR

Because the uranium decays into lead at a fixed time rate, we can use the ratio of lead to uranium to calculate the age of the zircon (and thus even the Earth's age). This is possible because zircons normally do not incorporate any lead when they crystalize, but do incorporate uranium. However, this process is not foolproof. Depending on the geologic history of the zircon, lead may leak from the zircon, altering the uranium-lead ratio. Scientists have found a way around this problem (in many cases) through the use of isotopes. The uranium-238 isotope decays to lead-206 (with a half-life of 4.468 billion years), while the uranium-235 decays to lead-207 (with a half-life of 703.8 million years). By measuring both 'parent-daughter' decays of both these processes, an accurate age of the zircon can often be calculated. This involves the use of some fancy, expensive instruments known as "secondary ion mass spectrometers" (or SIMS for short). All this is possible because zircon has two important properties: It has a relatively high hardness and it is resistant to chemical attacks. Thus, it can survive for billions of years after crystallization to provide the material used for age-dating.

Here, in Southern California, we have numerous localities where zircons can be collected. Most zircons from our mountains are very small, less than 1 mm in size and are abundant in the heavy mineral concentrates that one gets when one pans for gold in the local rivers. However, there are some places where much larger zircons occur. One of the most prominent is Pacoima Canyon, just north of Los Angeles where sizable zircons have been found (**Figures 14-15**).



Figure 14. A Zircon from Pacoima Canyon, CA
Photo Credit: Mark Garcia



Figure 15. A Zircon from Pacoima Canyon, CA
Photo Credit: Mark Garcia

Zircons have also been collected at the famous Crestmore Quarry (**Figure 16**). But more typically, we find small, sub-mm, zircons in rocks and sediments such as those from New York (**Figure 17**). Such small crystals are quite abundant. If you collect microminerals, you should have some in your collection.



Figure 16. Zircons from Crestmore, CA
4 mm long.
Photo Credit: GRR

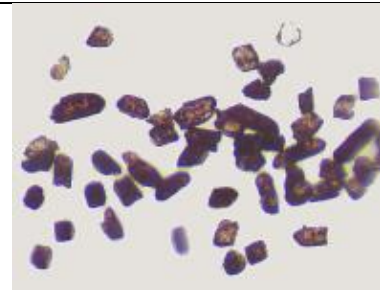


Figure 17. Small zircons that occur in rocks near Essex, New York
Photo Credit: GRR

MINUTES of April 8, 2022 1,000th Membership Meeting via ZOOM

Opening and Call to Order:

At 7:32 p.m., the 1,000th Membership Meeting of the Mineralogical Society of Southern California (MSSC) was opened by President Dr. Rossman, Ph.D. This is MSSC's 23rd ZOOM conference Membership meeting, 6th under MSSC's license.

The meeting was virtually turned over to MSSC long-time member, **Elizabeth Moller**. *"Good evening. Welcome. This is Elizabeth Moller joining you from Santa Barbara. MSSC has played a major role in my life and that of my husband since the 1950's; that (has) included field trips, bulletin publications, programs, teaching, learning, mineral shows and the interactions of those interested in minerals. According to Rudy Lopez (Programs Chair), I am the oldest MSSC Member. He didn't say whether that was age or time of membership, either way at age 99, I have the honor to open this meeting, to call to order the 1,000th meeting of the Mineralogical Society of*

Southern California. I'll turn the meeting over to the MSSC President."

The meeting was turned over to MSSC President Dr. George Rossman, Ph.D. George thanked Elizabeth. He announced a bit of business to take care of before we get into the history of the society.

Regular Business (Rossman)

Minutes: Dr. Rossman announced that the March 11, 2022 Membership Meeting Minutes, as published in the April 2022 Bulletin, need to be approved. George asked for any corrections or additions, seeing none, asked if all were in favor of approving the minutes (by raised hands). Dr. Rossman declared that a majority approved the minutes and were passed as written.

Field Trips: Marek has reported that there are no field trips planned in the immediate future in large part due to the (Mojave) heat waves we are going to have in the next few weeks. Stay tuned for future possible updates.

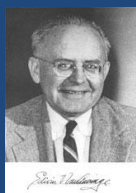
That concludes the business portion of this meeting.

Program (Dr. George Rossman, Ph.D.)

It's time to celebrate the fact that we are having our 1,000th meeting of the Mineralogical Society of Southern California (MSSC). The society has been around in Southern California for 91 years! Let's take a look. Dr. Rossman began MSSC's **1,000th meeting presentation**.

Early Days of the MSSC

Details provided by Edwin Van Amringe in an early MSSC Bulletin



MSSC began on May 24, 1929, when a few geological enthusiasts from Edwin Van Amringe's evening class for prospectors at Pasadena Junior College visited the Natural Soda Products Company plant at Keeler, as guests of its general manager, David B. Scott of Altadena. There, Scott mentioned the lack of any local club of mineral collectors, and that he would help in their organization. One year later, in the December 1930 issue of *ROCKS AND MINERALS* magazine printed a suggestion that some interested person should start a group in Southern California.

Edwin Van Amringe organized the first MSSC field trip to Natural Soda Products Company's plant at Keeler. It was attended by his PJC evening class of prospectors.

Dr. Rossman continues MSSC's history: In 1956 Van Amringe died and his friends and colleagues, including H. Stanton Hill and Gus Meister, established the Edwin V. Van Amringe Memorial Geology Scholarship Fund to honor his devotion to geology, teaching and to give recognition to outstanding students in Van Amringe's chosen field. The fund is housed at Pasadena City College.

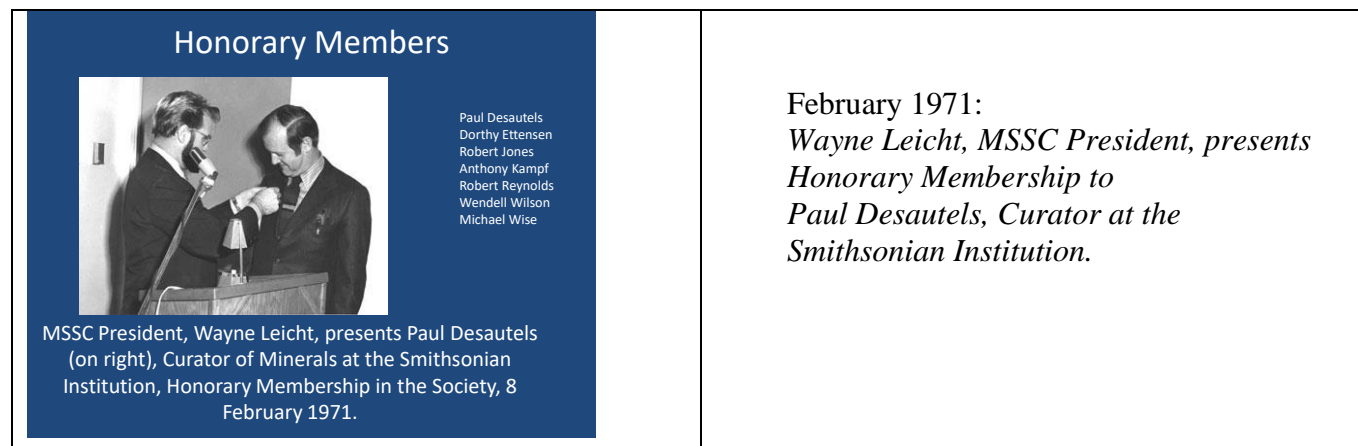
Mineral shows were a good way for collectors to show their finds and prized minerals. In 1935 there was the California Pacific International Exposition presented by MSSC, Orange County Society and Los Angeles Mineral Society. The event, held in San Diego, was attended by a very popular American, President Franklin Delano Roosevelt (red arrow in photo below). Quite a feather, indeed! When WWII came, MSSC donated a small contribution to the fund for the USS Pasadena, a ship used during the war.



After the war, mineral shows became prominent again. In 1946, the California Federation had a show and MSSC participated (photo) and there was a show at the Odd Fellows Hall, minerals were on parade. Shows were held in Long Beach, Pasadena Convention Center and MSSC's Pacific Micromount Conference was held at San Bernardino County

Museum and is currently at the Fallbrook Mineral Museum.

Over the years MSSC gave Honorary Memberships to distinguished members of the society and they included Paul Desautels, Curator of Minerals, Smithsonian Institute; Dorothy Ettensen, Curator of Minerals, L A County Museum; Robert Jones; Anthony Kampf, Curator Emeritus, Natural History Museum of Los Angeles County; Robert Reynolds, (fmr.) Curator of Earth Sciences, San Bernardino County Museum; Wendell Wilson, Editor *Mineralogical Record* and Michael Wise, US National Museum.



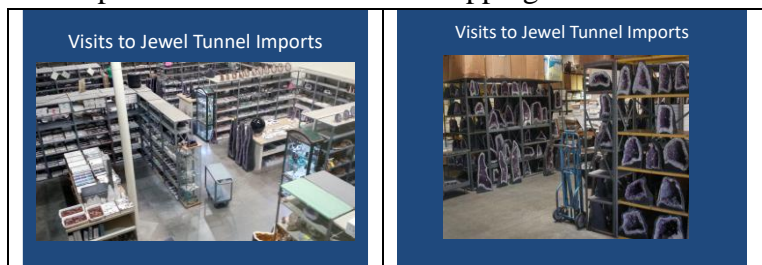
FIELD TRIPS

<p>1931</p>  <p>The first field trip, Crestmore Quarry, 75 members attended.</p>	<p>1933</p>  <p>Odessa Canyon, for jasper, petrified wood and palm, and chrysocolla.</p>	 <p>Stanton Hill and Edwin Van Amringe on a very cold field trip. Date unknown</p>
<p>1963</p>  <p>Hanksite</p>  <p>Gus and Edith Meister...digging a hole for hanksite at Trona</p>	<p>Collecting Evaporites 1982</p> <p>Near Niland, CA Southeast side of Salton Sea</p>   <p>Halite</p>  <p>Sylvite</p>	<p>1983</p>  <p>Pack Rat pegmatite mine, Tule Mountains, Jacumba district, San Diego County, CA</p>  <p>Cassiterite</p>  <p>Schorl in quartz</p>

Other field trips included Peterson Mountain, a quartz locality that has smoky quartz scepters; barite treasures from Palos Verdes; finds at the Blue Bell Mine; Lead Mountain has great crystal finds and there at Calico for borate and sulfate minerals. Marek, our current Field Trip Chair, has also arranged wonderful field trips to Red Cloud for wulfenite to Randsburg for manganese and other minerals. "For the person interested in collecting different types of minerals, there really still remains a wealth of minerals that can be collected in Southern California", Dr. Rossman states.

<p>1989</p>  <p>Petersen Mountain Quartz</p>	<p>2018 Palos Verdes</p>  <p>Trophy of the day</p>	<p>2019</p>  <p>Lead Mtn. Mine,</p>  <p>Barite</p>
<p>2019</p>  <p>Borate area, Calico Mts</p>  <p>Celestine</p>  <p>Jarsalite</p>	 <p>Nice specimen</p>	 <p>Randsburg Manganese Mineral Saturday March 20, 2021</p>

Our society was fortunate to have a good relationship with our former President, Rock Currier, who founded Jewel Tunnel Imports (JTI). Rock was generous enough to invite MSSC, educational institutions and clubs to visit JTI and allow those who wished, to buy to their hearts content at a discounted wholesale price. Many Caltech students spent a weekend at JTI unwrapping minerals and crystal specimens, recent arrivals, from Brazil, Peru or from any of the many other places Rock went to for his import business. In these photos, you see some of the racks and shelves of specimens he had; some were as low as \$1 and some as high as \$10,000, and much higher...and that was just the outer rooms.



Other social activities include our annual “picnic”, a social gathering providing members and guests the opportunity to talk about minerals in a relaxing setting. In the past decade or so, the event was usually held at the Bruce Carter residence. We’d set up in their back yard and along the adjacent driveway there would be tables covered by shade pop-ups for the silent auction of donated minerals, books, lapidary and other goodies. There would be great food, always fun stories and just a wonderful time. Also, MSSC received fabulous rock and mineral donations over the years. And MSSC celebrated our elected and past Officers and Directors at our annual Installation Banquet (except for 2020 and 2021 due to the COVID pandemic).





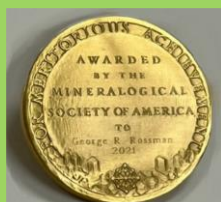
Rudy Lopez, Programs and Education Chair, tells us that since MSSC has not hosted a mineral show in some years, we have enjoyed outreach opportunities by participating in events around the area. We set up tables, hand out mineral specimens to youngsters and we talk to their parents about encouraging their kids’ interest in minerals. Rudy is at the forefront of these workings and sets out part of his private collection as exhibits and even performs cabbing demonstrations whenever appropriate. Rudy proudly says that MSSC was invited to the inaugural Nature Fest hosted by the Natural History Museum of Los Angeles County and that MSSC had exhibited there for years before COVID locked everyone out; same with the Orange County Parks events and other outreach opportunities.



2018 Tucson Gem & Mineral Show
*This was **Rock Currier's Worldwide Search for Minerals** exhibit*

Secretary Angela Guzman pays tribute to MSSC's current President, Dr. George Rossman, Ph.D. She tells us Dr. Rossman does society outreach by giving seminars, speeches and talks to various educational groups, institutions (GIA), clubs/societies and others. He is highly recognized for his research in and study of color in minerals. He is the renowned authority on spectroscopy, which encompasses 3 principal categories: origin of color, the effects of natural and artificial radiation damage and the concentration and crystal chemistry of hydrogen in minerals (hydrous and nominally anhydrous).

Dr. Rossman is a full-time professor at California Institute of Technology, Caltech, and has been associated with Caltech for 50 years. He is the first recipient of the prestigious *Dana Medal*, which was bestowed on him in 2001. The Mineralogical Society of America (MSA) elected to award the Dana Medal to Dr. Rossman. It is awarded to an individual who, by their *mid-career*, made outstanding original contributions to the science of mineralogy. Over the years Dr. Rossman has received many accolades and attained an exceptional level of prestige and honor. In 2021 he was awarded the highest MSA honor, the *Roebeling Medal*. The Roebeling Medal is given in recognition of an individual's *lifetime scientific eminence* as represented by publication of outstanding original research in mineralogy.

<p>The Dana Medal is intended to recognize sustained outstanding scientific contributions through original research in the mineralogical sciences by an individual in the midst of his or her career.</p>  <p>The inaugural Dana Medal</p>  <p>Dr. George Rossman</p>	  <p><i>The Roebeling Medal is the highest award of the Mineralogical Society of America (MSA) for scientific eminence as represented primarily by scientific publication of outstanding original research in mineralogy.</i></p>
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MSSC is honored to have Dr. George Rossman as its President. He is preceded by those who built the foundation then by others who grew the society to what it is today.

Dr. Rossman says when he became MSSC president 4 years ago, the IMA had approved 5,300 minerals. Today, there are about 500 more, 5,800 approved minerals. By far, one of the world's leaders in bringing about these new minerals is Tony Kampf, who has described something on the order of 318 minerals. In more recent time, Bill Wise, Aaron Celestine and Marek Chorazewicz have been involved in description of new minerals. Some of the people who have since become members have also been involved in descriptions of new minerals. Members who have, working in teams, identified or described 350 minerals with Dr. Tony Kampf leading the way with 318 are Dr. Rossman with 51, Dr. Bob Housley with 40, William Wise with 12, Aaron Celestine with 11 and Marek Chorazewicz with 2. Rossman tells us several MSSC members have minerals named after them, including himself having 2, rossmanite and alumino-oxy-rossmanite. There is kampfite, housleyite, wilkinsite, devitoite, kayrobertsonite, alfredopedrovite, juanitaite and currierite to name some.

In a way, we realize COVID provided MSSC with an outlet for greater outreach opportunity. We were able to tap into ZOOM, thanks to Caltech, and it has allowed us to bring in speakers from afar. But now we look to the future. We look to recruit younger members, younger members to participate in the administration of the society, to hold officer positions. We encourage more field trips – they have helped increase our membership and there is a wealth of education opportunity there, as well. What will our 2,000th meeting look like? Where will it be held?



The presentation was closed; Dr. Rossman left us with lots of food for thought. Then, there were a lot of wonderful, shared memories, lively talk and great camaraderie.

One thing: the young people. If we could spark interest in them while they're young, maybe, just maybe, we could see some bright mineralogists coming up the ranks, getting involved with education, minerals and contributions to the future of MSSC.

There was so much discussion before and afterward, it was impossible to write it all here. I hope you could celebrate with MSSC for its 1,000th Membership Meeting! These Minutes are longer than usual and contain lots of photos to enhance your reading. Thanks to all who helped with research, photos and memories.

The meeting was adjourned at 8:37 p.m.

Respectfully submitted, Angela Guzman, MSSC Secretary



MINUTES of the MSSC Board Meeting. April 8, 2022 via ZOOM

Call to Order and Roll Call

The MSSC Board meeting was called to order at 1:00 p.m. by President Dr. George Rossman. The following Officers, Directors and Committee Chairs were present: George Rossman, Cheryl Lopez, Carolyn Seitz, Angela Guzman, Ann Meister, Pat Caplette, Ahni Dodge, Leslie Ogg, Rudy Lopez and Patrick Stevens. Excused were Bob Housley, Marek Chorazewicz, Al Wilkins, Linda Elsnau and Laura Davis. There was a quorum.

Action Item (s)

Approval of the January 2022 MSSC Board Meeting Minutes as posted in the February 2022 Bulletin: Dr. Rossman asked for any corrections or additions and seeing none, asked for approval of the minutes as published. There was no opposition and Rossman declared the minutes approved.

Reports, Items and Discussions

1. Comments from the President (Dr. Rossman)

- a) 1,000th MSSC meeting – George gave a recap of the upcoming presentation and mentioned that he, Rudy, Cheryl and Angie have met to review the flow of the presentation. Rudy continues to send information, Angie suggested we spread the word by asking friends to get them on the invite list through Rudy;
- b) How do we get our members to present at meetings? Maybe we could do shorter presentations or tag-teams, 2 or 3 people present. George reminded us of how, in the early days of MSSC, members gave talks about their collecting experiences;
- c) 48th Atlantic Micromounters ZOOM Conference with Micromineralogists of the National Capital Area and Mineralogical Society of the District of Columbia was held March 27, 2022. The ZOOM presentation was attended by Dr. Rossman. He reported that it was a high level, very impressive event with multiple presenters including a former student, Alex Brenner.

2. Treasurer's Report (Carolyn Seitz)

- a) Request permission to pay ordinary expenses of MSSC when requests are received (by Treasurer) as opposed to waiting to present to the Board for approval then payment. Carolyn gave two examples: Bulletin expenses, CFMS Director travel expenses. Board Discussion: Timing factor taken into consideration. Example: CFMS Conference held in November but next Board Meeting is the following January. Expenses for that November conference may be submitted and paid, in accordance with MSSC By-Laws, before the January Board Meeting. Likewise for Bulletin Editor's ordinary expenses, for example. Agreement to submit expenses prior to event/meeting/occurrence including backup documentation;
- b) We received Thank You from Mindat for donation. Suggestion to post in Bulletin;
- c) Review of financial reports;
- d) IRS on-line filing issues to be resolved soon. Treasurer will advise status in next day or so.

3. Membership Chair Report (Cheryl Lopez)

- a) Membership update: 105 members (5 Life, 4 Honorary, 56 Single and 20 Family);
- b) Update PayPal membership payment process with efforts made by Leslie, Carolyn and Cheryl to get necessary changes completed;
- c) New Roster format proposal shared by Cheryl, who explained ease of use and noted that CFMS does not require Roster with annual dues. Cheryl asked Board for approval to switch format. There was no opposition to color (aqua) or format;
- d) Zip +4 discussion: No longer required by USPS but keep those we have and not necessary to require from new members;
- e) Informational announcement flyer via e-mail or send USPS? Board discussion included pros and cons of these methods, if members are interested and want to participate i.e., upcoming elections for Officer or Director of the Society, they will open the e-mail and read it. Suggestion: post flyer notices in Bulletin.

4. Bulletin Editor issues (Linda Elsnau)

The following was asked of Linda in an e-mail communication: *Do we have the capability to put into effect a "Read Receipt" function for e-mail thereby allowing us to track who opens the e-mailed Bulletin?* Linda asked the Board why this issue came up.

During a review of the 1,000th meeting presentation, reviewers wondered why some members were unaware of informational notices regarding elections and dues increases, for example, when notifications were posted in the Bulletin [Refer to 3. e) above]. It appeared to mean that some members were not opening their e-mailed Bulletin to get the notices. Reviewers wondered if the Read Receipt was active or could be activated to see who was not opening their e-mail and therefore, not responding to notifications.

Discussion: Should MSSC notify its membership by USPS snail mail **or** via E-mail with a posted notice in the Bulletin? In order to solicit member participation and the opportunity to serve the society as an officer or director, MSSC will provide an early notice flyer; specifically for the upcoming Election of Officers and Directors (nominations are taken annually in October and November Membership Meetings). The consensus is by E-Mail with a posting in the Bulletin (June). Cheryl will prepare the flyer and make sure it is reviewed by the Board prior to distribution by e-mail and Bulletin posting.

5. Secretary Remarks (Angie Guzman)

1. Ad Hoc Committee update: MSSC membership (1 year) "scholarship" for a student(s) who is studying or interested in mineralogy. Ongoing challenges impede Ad Hoc members from connecting with Natural Science departments. Ahni reports that scholarship requirements at PCC are minimum \$1k per annum. Natural Science Dean at PCC is stepping down and will be replaced; it has not been announced who will be the replacement at this time. Ahni also reports that PCC will begin charging groups and organizations hourly for meeting rooms.
2. Board discussion: contact Cal State LA, Cal Berkeley, Occidental, LACC and others to distribute flyers or give a short presentation. Comment and further discussion: How many ZOOM attendees are students? Many speakers bring in student attendees. This project is a work in progress, stay tuned;
3. CFMS Gem & Mineral Show will be May 6-8 in Lancaster hosted by Antelope Valley Gem & Mineral Society.

6. Status of Field Trip Planning (Marek Chorazewicz)

No report at this time.

7. Federation Director's Report (Angie Guzman)

Request for volunteers to help for a 2-hour stint at "Club Central" table at the CFMS Show on *May 6, 7 and 8 in Lancaster*. "Club Central" is an information booth to help the public find a society or club close to them. A society or club may put out ¼ sheet flyers about their society or club as handouts. **Contact CFMS' Marcia Goetz to volunteer (626) 260-7239.** CFMS is also looking for volunteers to demonstrate mineral and lapidary skills. Comment by R Lopez, who mentioned costs and time associated with volunteering demonstrations at other club events.

8. Programs Chair Report (Rudy Lopez)

- a) Speakers: Booked solid through February 2023 with stand-by list. Speakers are on the website, Member Quick Links. (small glitch repair by Webmaster performed);
- b) Long-term storage of newly acquired materials from Ronald Sleeper, other MSSC items (donations) and various electronic and misc. PMC items all currently housed at Rudy's residence. Discussion regarding storage units, scanning original documents (Pat Stevens will do a 1 years' worth as trial on high- speed scanner). Once scanned, could be stored in Cloud or on flash drive or similar device with a copy to each Board member. Also, possibility of moving items to Past President and Historian Ann Meister's garage in a few months. There will be an update at next Board meeting on this matter.

9) Webmaster Report (Leslie Ogg)

- a) Both domains need to be renewed. The cost for both is \$33.98. Leslie says this is an ordinary, reasonable and annual expense. Treasurer concurs and these renewals will be paid as a course of business when she receives the invoices;
- b) MSSC subscribes to WordPress' Folders app. The cost is \$29/yr, \$44 for 2 years or \$119 usage forever. Leslie says we've used these Folders for 4 years and have already paid over \$100 and requests approval for the \$119 subscription. Items in the Folders include the 22 years of Bulletins (each year uses a folder).

Board discussion resulted in **MOTION by Guzman: approve \$119 subscription for WordPress Folders app., second by C Lopez. Motion was approved.**

- c) Leslie gave statistics report including most popular views/likes Miko (462, 15), Dr. Megaw (174, 15) and Denise Nelson (150, 9). Other usage by visitors include largest/most popular activity is Field Trips, Bulletins and Membership on the website. Facebook and Instagram also show interest; notices about upcoming meetings are posted on FB (Leslie includes a photo of presenter).

10) Status of Micromineral Conference for Fallbrook (Al Wilkins)

- a) The Northern California Mineralogical Association (NCMA) annual conference will be held May 26-29 at El Dorado Community Hall in El Dorado, CA. Contact Al or NCMA Treasurer Barbara Matz, if interested;
- b) Al is willing to entertain an impromptu PMC in the fall if there is significant interest. But arrangements would need to be made with Fallbrook Museum and speakers would have to be set up, as well. Al asks that he be notified ASAP in order to make necessary arrangements.

Board discussion included Jurupa Discovery facility as possible site for PMC; Leslie said, after COVID, people are ready to attend social functions; George suggested to broadcast PMC via ZOOM and invite other clubs throughout the country to join in, bring in more speakers; Rudy said the usual Fallbrook attendees also go on to Tucson shows. Dr. Rossman summed up with: It's worth giving some thought to if we go forward. Let's try to broaden our outreach and bring along the rest of the nation.

- c) Before setting the next meeting date, Dr. Rossman asked for any other announcements or comments?
 Ahni – casual MSSC dinner will be April 23rd at 5pm at Kathleen's on Lake Ave;
 Ann – Picnic this year? Rudy comments that it is possible for Hamilton Park where there is plenty of parking, need to check City prices and availability (baseball has started);
 Angie – Sending out official MSSC Thank You to Ronald Sleeper for contributions to MSSC and, a thank you to Rudy for picking them up.

11) Next Board meeting, by agreement, will be via ZOOM on July 10, 2022 at 1p.m.

Meeting adjourned at 2:17 pm.

Respectfully submitted Angela Guzman, MSSC Secretary

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	ZOOM June 11, 2022	John Rakovan -Mosaic and Split Crystals
	ZOOM July 8, 2022	Howard Heitner - Minerals in 19th century America.
	ZOOM August, 13, 2022	Scott Braley – Collecting at the Red Cloud Mine in Lincoln County, New Mexico
	ZOOM August, 13, 2022	Wes Andree, JMDC: a gem of the Inland Empire
Board Meeting	ZOOM July 10, 2022	ZOOM at 1:00 PM
Field Trip	TBA	No Field Trips Planned at this Time

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

With Knowledge Comes Appreciation

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

Thank you letter from The Hudson Institute of Mineralogy DBA Mindat.org

MSSC recently made a contribution to help support Mindat.org. The following letter was sent to the attention of our Treasurer, Carolyn Seitz:

On behalf of the Hudson Institute of Mineralogy dba Mindat.org, I wish to express my appreciation for your organization's generous gift of \$500.00 to the Institute, and for your on-going support of our education and outreach efforts. Your group is among a growing list of dedicated organizations, scientists and mineral enthusiasts who are actively supporting our most significant outreach effort, Mindat.org. Organizations such as yours play an important role in advancing our objectives among the general public, and your thoughtful contributions are most welcome. We have added your group's name to our "Supporters" list on the website of Mindat.org.

The Institute has been granted tax exempt status under section 501(c)3 of the IRS code, and for U.S. residents, donations to the Institute are tax deductible to the fullest extent allowed by law. Please consult your tax advisor for details. This letter also certifies that your contribution was received with no reciprocal goods or services rendered to you, and you should retain this letter in your files as proof of your donation.

Once again, please accept my personal thanks and appreciation for your continuing support.

Sincerely,
Anthony J. Nikischer,
Chairman

OTHER FREE THINGS TO DO...by Ann Meister

The **Watson Lecture** is on Wednesday, **May 11**. *Each Watson Lecture will begin at 5:00 p.m. Pacific Time. Each lecture runs approximately 40 minutes, followed by live audience Q&A.* You can view the livestream at caltech.edu/watson or [on Caltech's YouTube channel](#). No advance registration is required. The speaker is Scott K. Cushing, Assistant Professor of Chemistry, Caltech. The title of the presentation is **"What Entanglement Can Tell Us About Our World."** Entanglement refers to a connection that can occur between quantum particles even when they are far apart from each other. Entanglement underpins everything from quantum teleportation to the quantum computation revolution. In this lecture, Cushing will discuss a less explored aspect of entanglement: what we can learn about both small and somewhat larger objects when they are forced to interact with entangled photons. The knowledge gained from these new tools could lead to cutting-edge technologies. Cushing was named the 2021 KNI-Wheatley Scholar in Nanoscience for his proposal to develop entangled photon sources capable of exploiting quantum advantages in multiphoton nonlinear spectroscopy. risk. *Find more past Watson Lectures on [Caltech's YouTube channel](#).*

The **Von Kármán Lecture** is on Thursday, **May 26** at 7:00 PM. Available live on YouTube at [NASA Jet Propulsion Laboratory - YouTube](#). The speaker is Dr. Brian Grefenstette, NuStar Principal Mission Scientist, Caltech. The title of the presentation is **"NuStar – Studying the Universe in X-Ray."** The Nuclear Spectroscopic Telescope Array, or NuSTAR, mission studies the universe in high energy X-rays giving us a better understanding of the dynamics of black holes, exploding stars and the most extreme active galaxies. How has NuStar changed the way we look at the universe?

The **UCLA Meteorite Gallery** has reopened. Check the website for hours. The monthly lecture will be presented on Sunday, **May 15**. The speaker is Dr. Philipp Heck, Field Museum. The title of the presentation is **“Fossil Meteorites – A record of the Asteroid Belt’s History on Earth.”** A wealth of information on the asteroid belt comes from the study of meteorites that were collected on Earth’s surface. Meteorites are rock fragments from asteroids and planets that were ejected during impacts. Since Earth’s formation meteorites have arrived on our planet and some of them remain preserved as fossils in sedimentary rocks. In this talk, I will explore with you what fossilized meteorites can tell us about the history of the Solar System, in particular the asteroid belt. Why should we bother searching for meteorites underground if we can find them conveniently on Earth’s surface? Meteorites today are rare but were they always as rare? How different are the meteorites that arrived on Earth in deep time compared to more recent falls? I will address these and other questions and present highlights from my collaborative research on fossil meteorites. **Zoom Registration:**

https://ucla.zoom.us/meeting/register/tJEqduyupj0vGd3S0_52FsbHTbPjYr0sZQUj

If you need detailed instructions on [how to join a meeting](#) via Zoom please contact our Curatorial Assistant, Juliet Hook, at jahook@ucla.edu. Note: Registration is only needed once as this is a recurring meeting in Zoom. The speaker and topic will be announced on the website. Visit the website and check on events and videos and other neat things about meteorites, go to <https://meteorites.ucla.edu>

Calendar of Events:

Only local area shows are listed here. Other CFMS Club shows can be found at:

WEST COAST GEM, MINERAL & FOSSIL SHOW

Holiday Inn-Orange County Airport
2726 South Grand Avenue, Santa Ana, CA 92705



May 6, 7 & 8, 2022

Fri & Sat 10AM to 6PM
Sun 10AM to 5PM
(Wholesale closes 4 PM)

Martin Zinn Collection
Jeff Scovil Photographer

80 Select Retail
& Wholesale Dealers

FREE Admission

www.MineralShowsLLD.com

Minerals ♦ Gems ♦ Lapidary ♦ Jewelry
Fossils ♦ Decorator Pieces ♦ and much more!

Free Parking

mineralshowslld@gmail.com

OPEN to the Public

CFMS

Gems, Minerals, Fossils & Jewelry Show
MAY 6-7-8, 2022
Friday, Saturday: 9-5
Sunday: 9-4
Gems*Minerals*Fossils*Jewelry*Demonstra
tions
Exhibits*Dealers*Kid’s & Family Activities
State Golden Bear Nugget on Display

Antelope Valley Fairgrounds
2551 W. Avenue H
Lancaster, CA 93536

May 6-7, 2022 – Yucaipa, CA

Yucaipa Valley Gem and Mineral Society
Yucaipa Blvd and Adams Street, Yucaipa CA
92399

Hours: Friday 6 PM – 10 PM, Saturday noon – 10 PM

Website: <http://yvgms.org>

June 11-12, 2022 – Escondido, CA

Palomar Gem and Mineral Club
Palomar Gem and Mineral Show
California Center for the Arts, 340 N. Escondido,
Escondido 92025

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

Website: <http://palomargem.org>

July 16-17, 2022 – Culver City, CA
 Culver City Gem & Mineral Society
 Fiesta of Gems
 Veterans Memorial Auditorium, 4117 Overland
 Ave., Culver City, 90230
 Hours: Sat 10 AM – 6 PM, Sun 10 AM – 5 PM
 Website: <http://CulverCityRocks.org/fiesta.htm>

August 20-21, 2022 – Arcadia, CA
 Pasadena Lapidary Society
 Arcadia Masonic Center, 50 W. Duarte Rd., Arcadia
 Hours: Saturday 10 AM- 6 PM, Sunday 10 AM – 5
 PM
 Website: <https://www.pasadenalapidary.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			

Featured Mineral: **Aragonite**

Formula: CaCO_3

Crystal System: Orthorhombic, Aragonite is a polymorph of Calcite

Color: Colorless to white or grey, often stained various hues by impurities, such as blue, green, red or violet; colorless in transmitted light.

Name: Named in 1797 by Abraham Gottlieb Werner for the type locality, the village of Molina de Aragón, Spain, and not the province of Aragón, a mistake made by several later writers



irocks.com photo

Aragonite: CaCO_3
 Locality: [Stevenson-Bennett Mine](#),
 Organ District, Organ Mts, Doña
 Ana Co., New Mexico, USA
 6.2 cm x 4.2 cm x 2.4 cm



irocks.com photo

Aragonite: CaCO_3
 Locality: [Styria, Austria](#)
 13.7 cm x 8.8 cm x 5.4 cm



irocks.com photo

Aragonite: CaCO_3
 Locality: [Sterkfontein caves](#),
 Krugersdorp, West Rand
 District, Witwatersrand field,
 Gauteng Province, South Africa
 5.4 cm x 2.8 cm x 1.4 cm

2022 MSSC Officers:

OFFICERS		
President	George Rossman	president@mineralsocal.org
Vice President	Cheryl Lopez	vicepresident@mineralsocal.org
Secretary	Angie Guzman	secretary@mineralsocal.org
Treasurer	Carolyn Seitz	treasurer@mineralsocal.org
CFMS Director	Angie Guzman	
Past President	Ann Meister	
DIRECTORS		
2022-2023	Pat Caplette	
2022-2023	Ahni Dodge	
2021--2022	Rudy Lopez	
2021--2022	Pat Stevens	
2021--2022	Leslie Ogg	
COMMITTEE CHAIRS		
Bulletin Editor	Linda Elsnau	bulletin@mineralsocal.org
Field Trip	Marek Chorazewicz	
Historian	Ann Meister	
Hospitality	Laura Davis	
Membership	Cheryl Lopez	membership@mineralsocal.org
Micro Mount Conf. Chairman	Al Wilkins	
Program and Education	Rudy Lopez	programs@mineralsocal.org
Webmaster	Leslie Ogg	webmaster@mineralsocal.org

About the Mineralogical Society of Southern California

Organized in 1931, the Mineralogical Society of Southern California, Inc. is the oldest mineralogical society in the western United States. The MSSC is a member of the California Federation of Mineralogical Societies, and is dedicated to the dissemination of general knowledge of the mineralogical and related earth sciences through the study of mineral specimens. We are a scientific non-profit organization that actively supports those endeavors through public outreach, field study and related programs. The Bulletin of the Mineralogical Society of Southern California is the official publication of the Mineralogical Society of Southern California, Inc.

The MSSC meetings are usually held the second Friday of each month, January, February and August excepted, at 7:30 p.m. in Building E, Room 220, Pasadena City College, 1570 E Colorado Boulevard, Pasadena, California. However, due to current health considerations, MSSC meetings are held via ZOOM conferencing until further notice. The annual Installation Banquet is held in January, and the annual Picnic and Swap Meeting is held in August. Due to PCC holidays, meetings may vary. Check the Society website for details.

The Society also sponsors the annual Pacific Micro mount Symposium held at the Fallbrook Mineral Museum during the last weekend of January.

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

Mineralogical Society of Southern California

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

E-mail: treasurer@mineralsocal.org

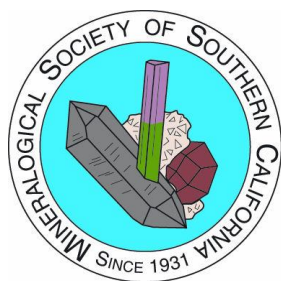
Website: www.mineralsocal.org **The Mineralogical Society of California, Inc.**

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

To:



**With Knowledge Comes
Appreciation**

***Your MSSC
Bulletin Is
Here!***