

## Zoom Meeting September 22 Time: 7:30 p.m.

### Program: “A Few Microminerals from New Jersey”

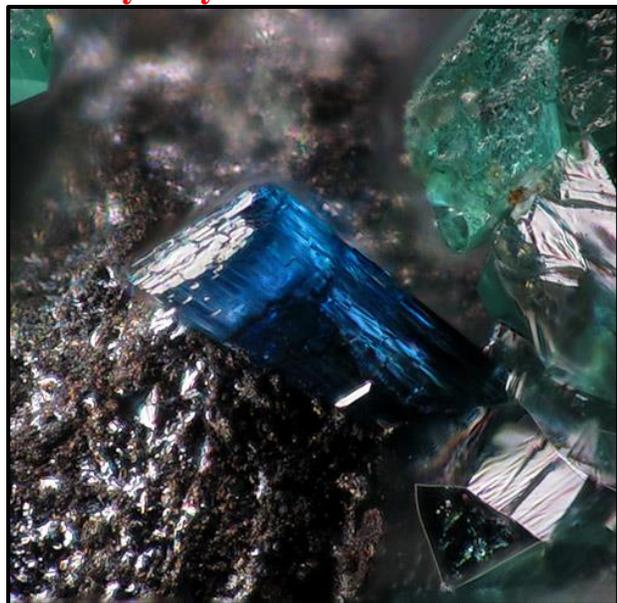
by Steve Stuart, Bethlehem, Pennsylvania

Steve will present a selective abstraction from his modest collection of New Jersey micromineral specimens. Several localities from the Hugh McCulloch “Winston Collection” are included. Focus is on little-known and unusual localities, not a lot of the usual Franklin minerals, Paterson zeolites, etc.

Biography: In the late 1990s, he bought a stereo microscope, which opened a whole new world for him. Steve posted his first photo to Mindat in 2004, and now has over 2,500 images on Mindat.

continued page 2

### Mystery Photo of the Month



### President’s Message:

by Dave MacLean



Some of us said that we should meet in person in September or October. However, our meeting place, the Long Branch Nature Center is closed to groups, while the Arlington Parks agency is short staffed.

We will meet through Zoom on Wednesday September 22. Our Zoom meetings this past year have been very interesting and have drawn a worldwide audience. However, we do not have our closer hands-on experience as we pass around micros, comment on them, and go through the giveaway pile. One suggestion is meeting in somebody's home. Let's explore that suggestion on how eight to thirteen of us can meet in one of our homes. Long Branch Nature Center may be closed for quite a while.

By November we will need to have identify nominees for President, Vice President, Secretary, and Treasurer for the December meeting's election. We need volunteers for a nominating committee or current officers willing to serve another year.

### Mystery Photo of the Month

Clue: Tsumeb, Namibia – Pete Chin mineral

**“A Few Microminerals from New Jersey” Sept 22 - Steve Stuart Bio**

Biography: Steve is a retired fire protection and risk management consultant since January 2016. He and his wife moved to Bethlehem, Pennsylvania in April of 2017, from Detroit, Michigan. His childhood interest in chemistry, nature and minerals was rekindled in 1995 when he started to collect fluorescent minerals. He has attended many micromineral symposia around the country since 2006, including Cleveland, Rochester, Pacific Micromount Conference, Desautels in Baltimore, the AMC in Virginia, and others. Steve is a member of the Canadian Micromineral Association, and has edited their newsletter, the MicroNews, since 2016. He is the first “Yank” to serve on the CMMA executive committee, so he was told.

**Previous Meeting Minutes: 6/23/21**

by Bob Cooke, Secretary

Since no business meeting was held, there are no minutes to report.



**Previous Program Review: 6/23/21**

by Kathy Hrechka, Editor

**“Geologic Origin of Serpentinites and the Unique Minerals Associated with Ultramafic Rocks”**

Dr. C. Leigh Broadhurst, Ph.D. Research Physical Scientist at the US Department of Agriculture Research Service presented her research via Zoom. She is a local club member of the Gem Lapidary Mineral Society of Montgomery County.

What happens when this mantle peridotite and associated basalts are metamorphosed in the presence of seawater? The result is serpentinite, a rock type composed of the mineral serpentine and associates. Serpentinite is common in Appalachians and is seen all around us in Vermont Green marble and bluestone road and drainage gravels. Mineralogy mainly serpentine, with lesser chlorite, talc, magnetite, chromite, stichtite.



**Mystery Photos of the Month - June:**

Presented by Dave Fryauff. Can you guess their identities? Hints: Both specimens are from Tsumeb. Both specimens are what they look like -- No tricks or exotics.

**Mineral #1 from Tsumeb, Namibia.** FOV 5 mm. Photo by Michael Pabst, taken with stereo microscope, stacking 23 images.

**Mineral #2 from Tsumeb, Namibia.** FOV 7 mm. Photo by Michael Pabst, taken with stereomicroscope, stacking 24 images.



#1?

#2?

Congratulations Pete Chin from Honolulu, Hawaii for correctly identifying the mystery minerals. Pete identified them as Tsumeb Cuprite & Mimetite.

**Program 6/23/21**

Peridotites also have other high-pressure minerals including: clinopyroxene (diopside), orthopyroxene (enstatite), garnet (pyrope, uvarovite), spinel (chromite). Pyroxene a chain silicate with complex formula (Ca,Na,Fe<sup>II</sup>,Mg)(Cr,Al,Fe<sup>III</sup>,Mg,Mn,Ti,V)Si<sub>2</sub>O<sub>6</sub>



Diopside Mg(Ca,Cr)Si<sub>2</sub>O<sub>6</sub>



Peridot



Major peridotite mineral and component of mantle: Olivine (Mg,Fe)<sub>2</sub>SiO<sub>4</sub>

## Bulletin Editor Advisory Committee 2021 AWARDS – Congratulations!

by Mary Bateman, BEAC chair from New Jersey

All editors and their authors have done a tremendous job this past year and they should be proud of themselves for a great job at a time when it was not easy doing so. Whether an editor was able to enter the BEAC contest or not, all editors that produced a bulletin this past year, deserve a deep thanks of gratitude from their clubs. Congratulations to all the editors and the entrants who entered the 2020 contest. 2020 was not an easy year to be producing a newsletter. Following are the results of both the EFMLS and the AFMS contests. It is unfortunate that no provisions were made at the “Annual Meeting” in July to acknowledge their efforts and accomplishments.

## Eastern Federation BEAC AWARDS Micromineralogists of the National Capital Area

### SMALL BULLETINS

\*Trophy Micromineralogists of the National Capital Area **Kathy Hrechka**, Editor of The Mineral Mite

### ORIGINAL EDUCATIONAL ARTICLES -- ADVANCED:

- \*2nd Place MNCA **Michael Pabst** Sugilite
- \*5th Place MNCA **Michael Pabst** Sarkinite and Krautite
- \*6th Place MNCA **Michael Pabst** Spessartine

### NON-TECHNICAL ARTICLES

- \*1st Place MNCA **David Fryauff** Sicilian Sulfur Covid Retreat on eBay
- \*2nd Place MNCA **Kathy Hrechka** Periodic Table of a Smart Phone
- \*4th Place MNCA **Kathy Hrechka** Snow Crystal Photomicrography
- \*5th Place MNCA **Kathy Hrechka** Smithsonian’s Geology, Gems, and Minerals Gallery—New Appeal

### WRITTEN FEATURES ADULT ARTICLES

- \*4th Place MNCA **Bob Cook** Previous Meeting Minutes 9/23/20
- \*6th Place MNCA **Michael Pabst** Mineral Hunting in the Pyrenes—A Virtual and Imaginary Tour

## American Federation BEAC AWARDS Micromineralogists of the National Capital Area

### SMALL BULLETINS

\*4th Place Micromineralogists of the National Capital Area **Kathy Hrechka**, Editor of The Mineral Mite

### WRITTEN FEATURES

- \*7th Place MNCA **Kathy Hrechka** Periodic Table of a Smart Phone March 2020
- \*8th Place MNCA **David Fryauff** Sicilian Sulfur, COVID Retreat on eBay October 2020
- \*10th **Michael Pabst**, “Spessartine” April 2020
- \*HM **Michael Pabst**, “Sarkinite and Krautite” March 2020

### MNCA Editor’s Note

by Kathy Hrechka

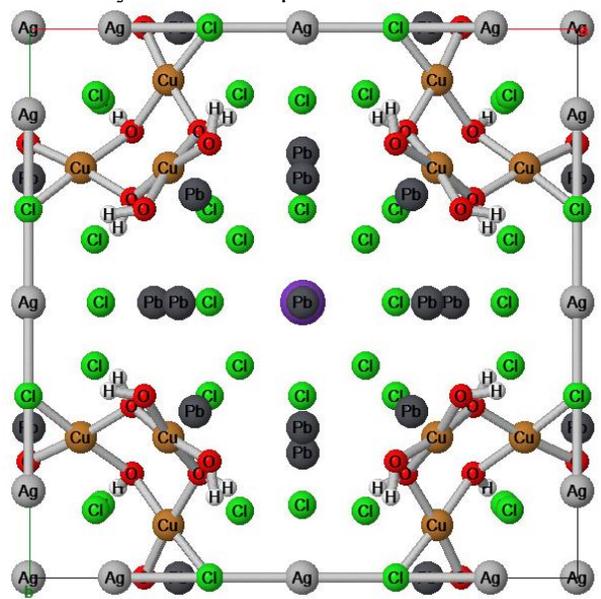
I am grateful for our geology club. We share many similar interests, which are documented in The Mineral Mite and on our club website each year. Thank you to all members who submit articles. We have a lot to share within our unique hobby. Imagine, some of us have been members for almost forty years. That’s a lot of geo friendship, talking minerals. Thank you for volunteering your time and talents of writing!



## Boleite

by Michael Pabst PhD, Treasurer

Boleite is the godfather of a class of basic lead copper oxychloride minerals. Boleite also contains silver  $\text{Ag}^{1+}$ . In fact, silver forms a cage in Boleite that is like the silver and lead cage in Quetzalcoatlite. (Please see the last *Mineral Mite* in June to read about Quetzalcoatlite  $\text{Zn}_6\text{Cu}_3(\text{TeO}_6)_2(\text{OH})_6 \cdot \text{Ag}_x\text{Pb}_y\text{Cl}_{x+2y}$ .) Boleite is popular with mineral collectors because of its well-formed crystals and deep blue color.



Crystal structure of Boleite, showing the silver cage (gray Ag) (lead is dark gray). From Mindat.

Boleite is often associated with similar minerals that lack silver, like Pseudoboleite. To help us keep these minerals straight, here is a cast of characters:

**Boleite**  $\text{KPb}_{26}\text{Ag}_9\text{Cu}_{24}\text{Cl}_{62}(\text{OH})_{48}$  Isometric  $m3m$  – hexoctahedral

**Pseudoboleite**  $\text{Pb}_{31}\text{Cu}_{24}\text{Cl}_{62}(\text{OH})_{48}$  Tetragonal  $4mmm$  – ditetragonal dipyramidal

**Cumengeite**  $\text{Pb}_{21}\text{Cu}_{20}\text{Cl}_{42}(\text{OH})_{40} \cdot 6\text{H}_2\text{O}$  Tetragonal  $4mmm$  – ditetragonal dipyramidal

**Diaboleite**  $\text{Pb}_2\text{CuCl}_2(\text{OH})_4$  Tetragonal  $4mm$  – ditetragonal pyramidal

**Chloroxiphite**  $\text{Pb}_3\text{CuO}_2\text{Cl}_2(\text{OH})_2$  Monoclinic  $2/m$  – prismatic

Here are some associated lead minerals that appear in the photos in this and following articles:

**Caledonite**  $\text{Pb}_5\text{Cu}_2(\text{SO}_4)_3(\text{CO}_3)(\text{OH})_6$  Orthorhombic  $mm2$  – pyramidal

**Phosgenite**  $\text{Pb}_2(\text{CO}_3)\text{Cl}_2$  Tetragonal  $4/mmm$  – ditetragonal dipyramidal

**Laurionite**  $\text{PbCl}(\text{OH})$  Orthorhombic  $mmm$  – dipyramidal

**Matlockite**  $\text{PbFCl}$  Tetragonal  $4mmm$  – ditetragonal dipyramidal

Boleite was named for its type locality, which is Boleo, Santa Rosalia, Baja California Sur, Mexico. As mentioned in the Table above, Boleite is isometric  $m3m$  – hexoctahedral. Boleite contains essential silver as  $\text{Ag}^{1+}$  in its formula:  $\text{KPb}_{26}\text{Ag}_9\text{Cu}_{24}\text{Cl}_{62}(\text{OH})_{48}$ . Boleite and related minerals form by weathering of lead and copper sulfides in hydrothermal ore deposits. They can form even post-mining or in slags.



**Boleite** from Boleo, Santa Rosalia, Baja California Sur, Mexico. FOV 3 mm. Photo by Michael Pabst, taken with stereomicroscope, stacking 19 images with CombineZP. (My specimen #581)

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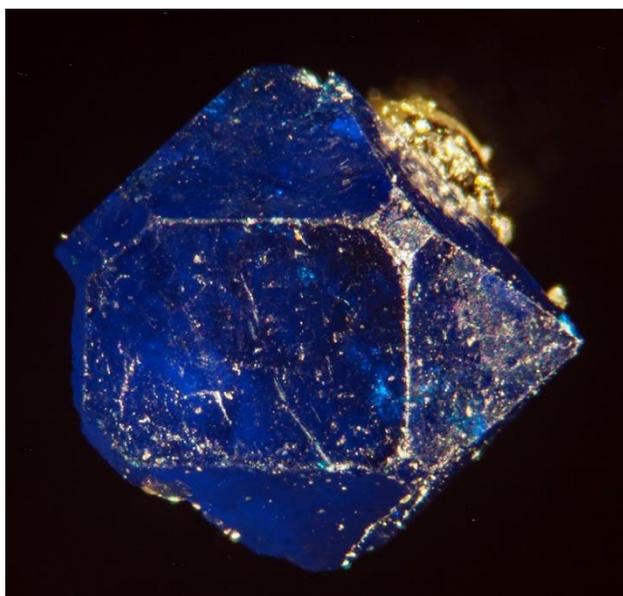
### Boleite continued

Here is another Boleite from Baja California:



**Boleite**, Santa Rosalia, Baja California Sur, Mexico. FOV 3 mm. Photo by Michael Pabst, using stereomicroscope, stacking 25 images.

The next photo is of a specimen of Boleite from Baja California. The crystal is likely a modified cube of Boleite. This form looks like a combination of cube and octahedron.



**Boleite**, Amelia Mine, Santa Rosalia, Baja California Sur, Mexico. FOV 4 mm. Photo by Michael Pabst using stereomicroscope, stacking 24 images.

Here is a photo of cubo-octahedral Boleite from Mindat: [www.mindat.org/photo-176858.html](http://www.mindat.org/photo-176858.html). This specimen shows more perfect geometry but poorer

color than my specimen above. There is an entire issue of the *Mineralogical Record* about Boleite from Mexico. It is the Mexico Special Issue I, which is Volume 29 from 1998. This issue contains two major articles:

Bariand P, Bouliard JC, Chancelier-Dumielle I, Tournis V. Boleo, Baja California, Mexico. *Mineralogical Record* 29: 5-49, 1998.

Swoboda E. Boleo - A Classic Locality Reworked. *Mineralogical Record* 29: 51-62, 1998.

Another good locality for Boleite is the Mammoth-Saint Anthony Mine near Tiger in Pinal County Arizona. Here we can find Boleite associated with blue-green Caledonite and colorless Phosgenite.



**Boleite** (blue cubes) and Caledonite (green prisms) and Phosgenite (colorless prisms), from the Mammoth-Saint Anthony Mine, Tiger, Pinal County, AZ. FOV 2 mm. (#1220). Photo by Michael Pabst, using macro + Raynox lenses, stacking 58 images with Olympus Workspace software.

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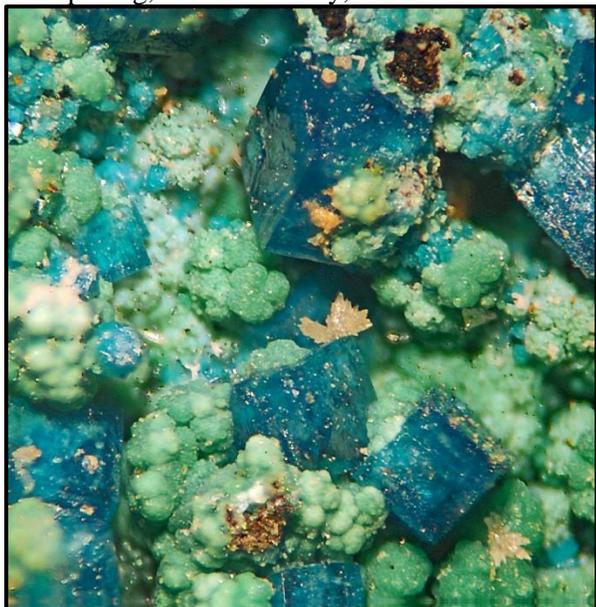
**Boleite continued**



**Boleite**, Mammoth-Saint Anthony Mine, Tiger, Pinal County, AZ. FOV 2 mm. Photo by Michael Pabst, using stereomicroscope, stacking 17 images. (#670). I cannot tell what the colorless crystals are.

There is a beautiful photo of Boleite on Mindat, that also includes what looks like Caledonite to me, although the photographer Dan Polhemus believes that the green mineral is Mammothite: [www.mindat.org/photo-1144627.html](http://www.mindat.org/photo-1144627.html). This is an amazingly good photo considering that the FOV and the height of the specimen is only 1 mm.

The last locality for Boleite I would like to show is Phillipsburg, Granite County, Montana:



**Boleite** (blue), Malachite (green), Cerussite (colorless) from Bi-Metallic Mill, Phillipsburg, Granite County, MT. FOV 1.5 mm. (#859) Photo by Michael Pabst, using stereomicroscope, stacking 14 images.

Another photo from Phillipsburg, showing both cubes and strangely stacked cubes:



**Boleite**, Bi-Metallic Mill, Phillipsburg, MT. FOV 1 mm. (#934) Photo by Michael Pabst, using stereomicroscope, stacking 21 images.

An early issue of the *Mineralogical Record* has an article about The Boleite Group, that includes commentary about the Phillipsburg locality:

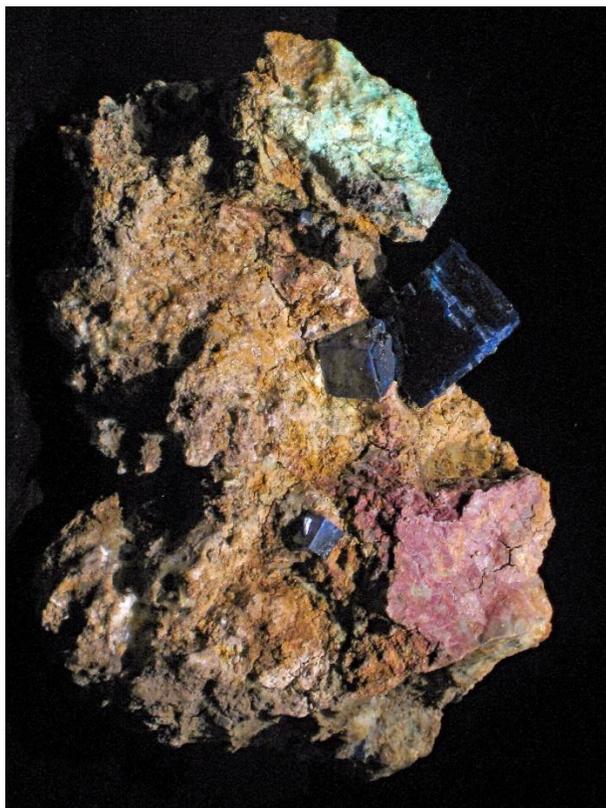
Winchell RE, Rouse RC. The Mineralogy of The Boleite Group. *Mineralogical Record* 5: 280-287, 1974.

This semi-opaque turquoise-colored Boleite was analyzed by Dr. Pete J. Dunn and found to be true Boleite. The crystals occurred in the ground beneath an old mill (Bi-Metallic Mill), where silver and copper were extracted from sulfide ores by a process involving mercury and salt. This silver and copper salty solution permeated the ground and led to rapid spontaneous formation of Boleite. Like a flash mob singing Messiah, the results were real but raggedy. This spontaneous formation of Boleite is supported by the observation that Boleite can be produced in the laboratory from a solution containing the requisite ions at room temperature and pressure.

## Boleite continued

I would like to mention one other locality for Boleite, which is in Spain, even though I do not have a specimen. But once again Mindat provides: <https://www.mindat.org/photo-541850.html>. This pretty photo by Angel Romero shows a complex Boleite crystal associated with green Atacamite or Paratacamite.

We will end with a photo I took of a major specimen of Boleite at the Arizona Sonora Desert Museum, west of Tucson. This is a hand-size specimen.



**Boleite**, Baja California, Mexico. Photo by Michael Pabst, handheld shot taken with Canon pocket camera in 2011.

In the next article, there will be photos and information about Pseudoboleite and Cumengeite. Although these minerals do not contain silver, they are like Boleite and they associate with Boleite, so it makes sense to consider them next.

## Desautels Micromount Symposium hosted by the Baltimore Mineral Society of Maryland Oct 9, 2021, 1pm

By Mike Seeds [www.baltimoremineralsociety.org](http://www.baltimoremineralsociety.org)

The 65<sup>th</sup> Annual Paul Desautels Micromount Symposium will be held on Saturday, October 9<sup>th</sup>, 2021 at 1 pm ET by **Zoom**

Hall of Fame Inductions: Jean-Luc Designolle & Dr. Anthony Kampf, which will be followed by the announcement of new candidates.

\***Jean-Luc** – “**Micromounts of the Sancy Massif**”  
\***Tony** – “**The Journey from an Unknown to a New Mineral**”

Voice Auction: Items will be selected and auctioned by Al Pribula.

Register with Mike Seeds [mseeds@fandm.edu](mailto:mseeds@fandm.edu) to receive a free Zoom invite.

**Biographies** by Quintin Wight, Ottawa, Canada  
On October 9, 2021, **Dr. Anthony (Tony) Kampf** of the Natural History Museum of Los Angeles County, and **Jean-Luc Designolle** of Tignieu-Jamezieu, France, will be inducted to the Micromounters' Hall of Fame.

**Tony Kampf**, as many of our readers will know, is an indefatigable researcher who has described at least 290 new mineral species and has named many of them after the micromounters who brought them to him. He has also been a friend to micromount groups and has made presentations at our symposia in both the USA and Canada. As a professional, he has been a strong voice in international mineral circles.

**Jean-Luc Designolle**, on the other hand, is a strong voice in micromount circles in Europe. In particular, he has given a new impetus to the development of the public micromount collection of French localities built by the *Association Française de Microminéralogie* (AFM) and hosted by the *École des Mines* (School of Mines) museum in Paris. He is also assiduous in promoting micromounting at major events such as the huge annual mineral show at Sainte-Marie-aux-Mines in France.

Both gentlemen have earned their places in the ranks of the Micromounters' Hall of Fame and will be welcomed in October.

### Shoobox Adventures 93: Outrage

by Mike Seeds of Pennsylvania, Editor of the Conglomerate, Baltimore Mineral Society

Why doesn't "enrage" mean the opposite of "outrage." That's important -- I want to know! We live in an age when all kinds of people use outrage to try to control what we think and how we think. So what's the opposite of "outrage"? My dinosaur size thesaurus says the antonym of "outrage" is "forbearance", and that's good. I mean, that's a good antonym and it's a good thing to have -- forbearance. I'm going to make a note to practice forbearance. I'll feel better. But I know an even better antonym for outrage; it's micromounting.

When the world gets really achingly stupidly outrageous, I turn on my 'scope light and voyage into the world of little rocks. There are mysteries there and beauty to soothe the troubled heart. Nothing I know is as peaceful as an evening of quiet in the microworld.

One evening I reached into my shoebox and pulled out a specimen I had bought from Neil Hubbard at Tucson. I knew the moment I saw it that it had to be mine. It's malachite, and it forms two small spheres like a planet and its moon. The blueish cast begs us to think of some other mineral, but the label clearly says malachite. It was a pleasure to study and trim and mount, and I thought of the days long ago when I watched our first TV set, a black and white floor model, and Captain Video blasted off into space searching distant moons and planets for the evil robot Tobor.



Fig. 1 **Malachite on smithsonite**, Chessy, France. The large sphere is 2.3 mm in diameter. Photo Mike Seeds

Next out of the shoebox was a crystal of Tellurium in a little capsule. It was from the Jatukoula Gold Mines in Fiji, a mine I had never heard of. Tellurium reminded me of Telluride, the gold mining town in Colorado, and that reminded me of hiking trails in the mountains and the view of the Rocky's from the top of Chief Mountain. It was a little hard to concentrate. No outrage here: just good memories.

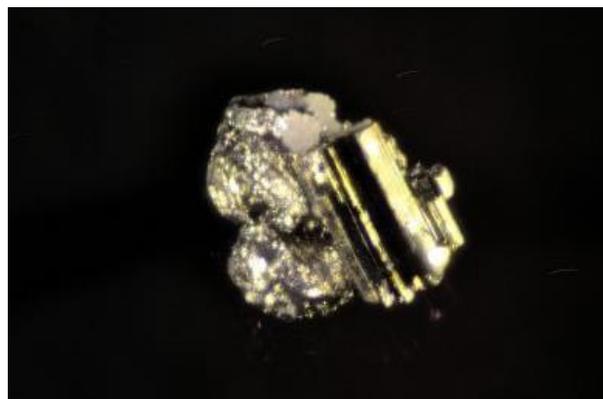


Fig. 2 **Tellurium** crystal from Fiji. The crystal is about 1 mm long. Photo Mike Seeds

I tipped the little crystal out under my scope and used a knife tip to turn it over and over. I finally chose the best side and turned it downward. Then I used stickum to attach a hairbrush bristle to a little wooden block, put a tiny dab of white glue on the bristle and positioned the wooden block so the gluey bristle tip just touched the back of the crystal. While the glue dried, I got a label and box ready, and then I picked up the bristle, turned it over, and glued it into the box. The crystal was safe and beautiful in its little box. It was relaxing -- very.



Fig. 3 **Strengite** from the Gettysburg South Pit, Grant County, New Mexico. Field of view is 3.5 mm. Photo Mike Seeds

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### Shoebox continued

When I reached into my shoebox again, I pulled out a beautiful strengite that I got in the Tucson Micro Room at the Gem and Mineral Show last year. I love strengite, but this was special because the mineral was made up of tiny white balls with glittering surfaces caused by the crystal terminations. The balls shimmered like the surface of smithsonite. Getting the specimen into a box without touching the little balls called for some concentration, but it is a beautiful specimen.

The evening passed quietly, and mineral specimens emerged one after another from my shoebox. I didn't think of politics or wars or upsets or other people's outrage. There may have been some music playing; I'm not sure. It was all very peaceful.

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### Type Mineralogy of Brazil: a 663-page open access e-book

by Herwig Pelckmans, Belgium



In October 2020, Daniel Atencio, professor at the Instituto de Geosciências of the University of Sao Paulo (Brazil), published a very important work regarding the minerals of Brazil, titled: "Type Mineralogy of Brazil: a book in progress"

The abstract reads: " This is a compilation of bibliographic (historical and descriptive) information for the minerals first described from Brazil; it includes both valid and invalid, discredited species, unnamed, unidentified, problematic minerals, and so on. This work brings together as much data as possible concerning type mineral species. It will save future researchers a lot of work because it contains data from many publications that are difficult to obtain."

The good news about this 663-page book: it will never be out of print, for it is an open access e-book. Downloading it is free and legal (from Researchgate.net)! The only thing it will cost you is the disk space to store the pdf-file (about 26 Mb).

For more information and an actual review of the book, see Min. Rec. 52(4), p. 479-480.

### Grand Opening of the New James Madison University Mineral Museum Friday, October 29th at 4:30pm

by Drs. Lance & Cindy Kearns



The grand opening is on Friday, October 29th at 4:30pm. Please spread the word and the invitation to all members of your club. We are inviting all members from eight different clubs, but we do not have individual addresses for everyone. Please, be certain that everyone who intends to come will send an RSVP. You can respond either by email, by phone call, or by USPS. Please be sure to indicate which club you belong to.

RSVP to Ann Marie Coe

Email - COEAM@JMU.EDU

Phone - 540-568-7274

Mail to: Ann Marie Coe

James Madison University

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**Friends of Mineralogy  
Virginia FMVA recap**

by Kathy Hrechka, Editor



**June 25: David K. Joyce  
"Collecting Minerals in Morocco"**

David shared his adventures of a Mindat geology trip to famous collecting localities in Morocco. He also participated in the 2012 Mindat symposium as a guest speaker. His presentation featured the minerals, scenery, and cultures of traveling around Morocco.



**Erythrite** Bou Azur Morocco



**Sphero cobaltite** Bou Azer, Morocco 3mm



**Vanadinite on barite** Mibladen Morocco



**Pyrite** iron crossed twins Taouz, Northern Sahara

Friends of Mineralogy Virginia FMVA is a non-profit organization dedicated to promoting and expanding the study of mineralogy and the hobby of mineral collecting. Learn more about FMVA and follow us on Social Media: [Facebook](#) [Instagram](#)

<https://www.friendsofmineralogyvirginia.org/>  
Email: [friendsofmineralogy.virginia@gmail.com](mailto:friendsofmineralogy.virginia@gmail.com)  
Thomas Hale is the founder and President of FMVA.

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**Friends of Mineralogy VA continued**



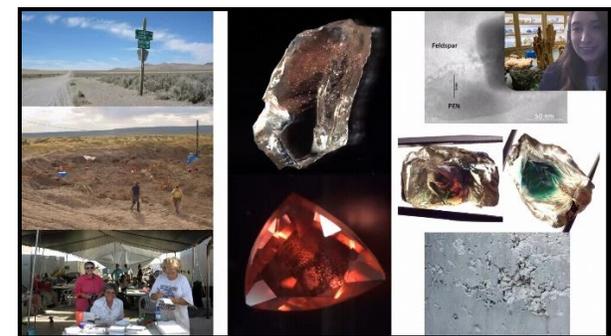
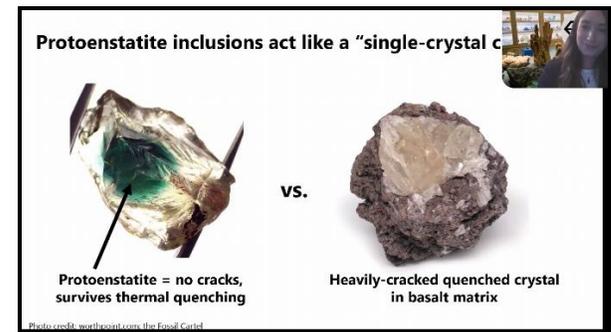
**August 27<sup>th</sup>: Dr. Gabriela Farfan, Smithsonian  
“Mineralogy and Mining of Oregon Sunstones”**

Dr. Gabriela Farfan of the Smithsonian Institution presented the mining and mineralogy of Oregon Sunstones. Dr. Farfan also discussed how these experiences led to her career in mineralogy!

Oregon Sunstones are a gem-quality form of calcic labradorite from Central Oregon that formed 13-14 million years ago when a volcano in Steens Mountain erupted, pouring out massive amounts of lava. The lava flow was subsequently covered by a vast lake and remained underwater for thousands of years. As the lake gradually dried up, the exposure to weather caused the lava to decompose and reveal loose sunstones. Gabriela ultimately discovered a new mineral with watermelon colors, Protoenstatite. It has been approved by the Commission of New Minerals.

**Speaker Bio:** Gabriela Farfan is the Coralyn Whitney Curator of Gems and Minerals at the Smithsonian National Museum of Natural History. She has a PhD in geochemistry from the MIT-WHOI Joint Program and a Bachelors in Geological and Environmental Sciences from Stanford University. Her research focuses on environmental biomineralogy and gem materials.

Photo: Oregon Sunstone gemstones and “rough” crystals from the Dust Devil Mine, Oregon. Photo credit: Gabriela Farfan  
Screenshots from program: Kathy Hrechka



## The Mineralogical Books by James and Edward Dana

by Herwig Pelckmans, Belgium



I don't think there is any serious recreational or professional mineralogist out there that does not know about "Dana's System of Mineralogy" or "Dana's Manual of Mineralogy". These books have been around forever, so it seems! For quite a while now I had been thinking of creating a list of at least the different "Systems of Mineralogy", together with links to online versions that can be fully searched digitally.

So finally, a few weeks ago, I started on this project only to find out a whole bunch has been written about these books, AND some things looked quite complicated when it came to different editions, different printings, different titles, different authors, and so on!

On the other hand, there were many digital versions to be found online, but quite a few were not what they pretended to be. Frequently the date of printing was plain wrong, or the edition stated was incorrect, or ... you name it. It was clear there was a need for a simple yet efficient list of the different editions of each work, linked to its digital version.

And so, I compiled a "Links to the most important mineral books by Dana" that I published on Mindat towards the end of August. I wrote it as a text file first, which turned out not to be such a great choice, because the article on Mindat needs to be in html format. Since my Word document had a lot of different characters and a specific layout, morphing it into an acceptable html version took a lot of time and even more copy & pasta. ;-)

Anyway, here is the link to my most recent article: [https://www.mindat.org/a/links\\_to\\_dana\\_books](https://www.mindat.org/a/links_to_dana_books)

For people who are looking for more info on Dana, here are a few useful links:

\* A detailed biography (and bibliography) of James Dwight was written by his son Edward Salisbury Dana, right after James passed away in 1895, and can be found here:

<https://babel.hathitrust.org/cgi/pt?id=hvd.32044107217713&view=1up&seq=9&skin=2021>

\* The most detailed bibliographic description of the mineralogical works by James Dwight Dana can be found here:

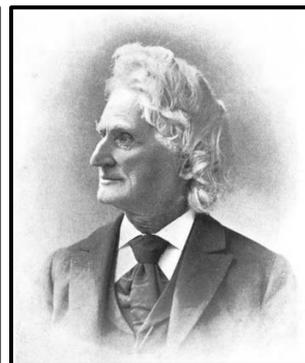
[https://mineralogicalrecord.com/new\\_biobibliography/dana-james-dwight/](https://mineralogicalrecord.com/new_biobibliography/dana-james-dwight/)

The most detailed bibliographic description of the mineralogical works by Edward Dana can be found here:

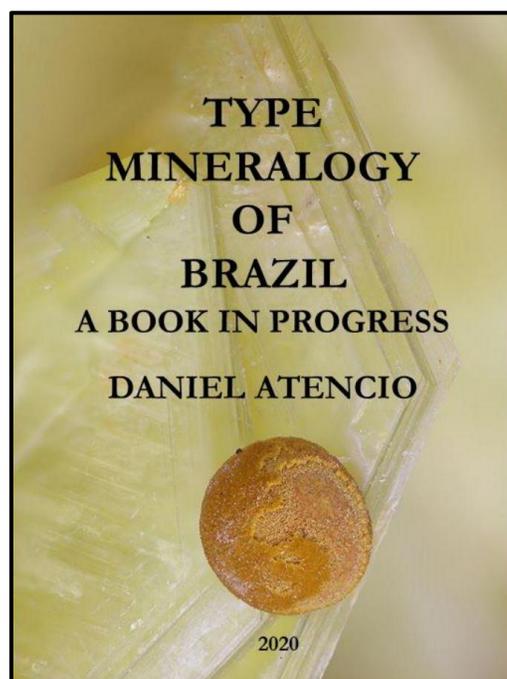
[https://mineralogicalrecord.com/new\\_biobibliography/dana-edward-salisbury/](https://mineralogicalrecord.com/new_biobibliography/dana-edward-salisbury/)



Edward Salisbury Dana



James Dwight Dana



## Rutherford Mine update

by Scott Duresky, Charlottesville, Virginia

"MNCA members Scott Duresky and Michael Pabst are nearing completion of the final version of their presentation on the historic Rutherford Mine Pegmatite #2 in Amelia Courthouse, Virginia. In addition to photographs, analyses, and information about their latest discoveries, they will share information on the establishment of a permanent Rutherford Mine Research Collection, which will be one of the rare instances where a near-complete and representative collection of a locality's mineral species will be set aside and administered so that future generations of collectors and researchers will have access to it. Again, Scott requests that any MNCA members who may have micros from the Rutherford Mine could bring them to next year's conference to consider for possible inclusion in this collection."

Thanks to the extraordinary efforts of Jim Lines of the Southern Maryland Mineral Club, Karen Smith-Will of the Richmond Gem and Mineral Society, and especially, my friend Sam Dunaway, owner of the Morefield Mine in Amelia County, I have recently had the special opportunity to have an extensive meeting with Kelly Anderson, the owner of the property on which the Rutherford Mine is located. During this meeting, I learned a great deal about the history of the Mine that I had not previously known and had the opportunity as well to meet with Aubrey Anderson, Kelly's father and the gentleman who purchased the Mine in 1983 from the Keener family after Crawford Keener died.

After this meeting, and quite unexpectedly, the younger Mr. Anderson offered to give me a complete and equally extensive walking tour of what had been the dumps of the No. 1 and No. 2 pegmatites. While the Mine's closure and permanent non-access status has long been known, and has been in effect since 1998, to my knowledge this is the first time an independent observer has been able to confirm the actual status of the dumps, which is this:

They are completely overgrown with young poplar trees, brambles, and innumerable broken branches, with the Number One pegmatite now filled with water, the wooden bridge leading to the Number Two pegmatite broken and rotting, and a steep hill now leading to the edge of the pond which had been at the center of the Number Two pegmatite. The ground itself is covered with a detritus of two decades + of broken branches, leaves and the like. In my opinion, this not only makes the Rutherford Mine, and the dumps associated with it, not only closed, but inaccessible.

At the personal request of the Anderson Family, I am getting this message out to as many individuals and clubs in the region as I can to let them know it's current condition, to confirm that it's permanently and forever closed, and to communicate in the strongest possible terms their wish that their privacy be respected and their property undisturbed.

I will be communicating with some of you personally in the very near future, and over the next few months, hope to share this information with some of the local clubs in the area, as well as after the upcoming presentations on my Rutherford Mine research. In the meantime, I welcome any questions you may have in response to this news. Thanks!

After a deeper dive into the Rutherford Mine Archives, I have learned that in the last major research paper written about the pegmatite, Gregory Lumpkin of the Canadian Mineralogist reported no evidence of the OH radical turning up in the many samples of Microlite tested. Consequently, it can now be reported that in addition to Fluorcalciomicrolite, which had been confirmed as the dominant member of the Microlite Group, three new species have now been confirmed:

**Kenoplumbomicrolite** (the only lead-bearing member of the group)

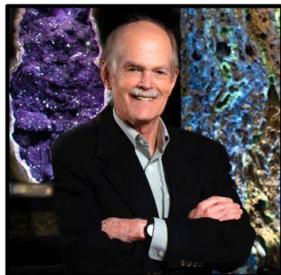
**Oxystannomicrolite** (the only tin-bearing member), and

**Oxycalcemicrolite.**

**Mineral Talks Live program recaps:**

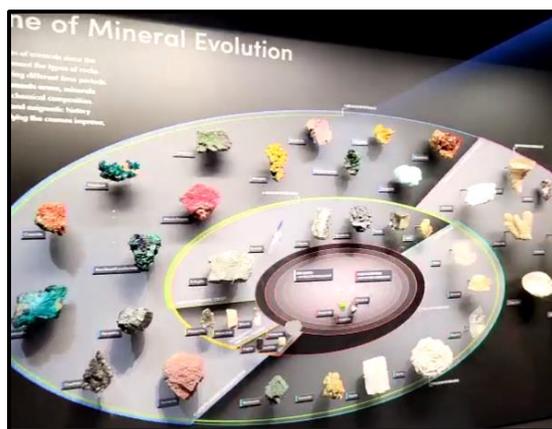
by Kathy Hrechka, Editor

**July 20: George Harlow, Emeritus Curator of Minerals and Gems at the American Museum of Natural History, New York, USA**



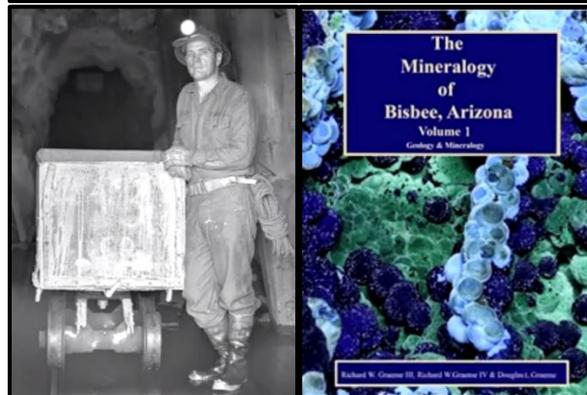
Dr. Harlow took us on a private tour of newly designed Allison and Roberto Mignone Halls of Gems and Minerals. The halls focus on the context of minerals and gems and their significance to life and society. Dr. Robert Hazen consulted while promoting mineral evolution. The new 11,000 square foot hall containing 5,500 specimens on display, from their over 128,000-piece collection opened on June 12, 2021.

Dr. Harlow studies the chemistry and structure of minerals as tools for understanding their origin and record of geological processes. He received his B.A. from Harvard College in 1971 and his Ph.D. from Princeton University in 1977. Dr. Harlow joined the Museum in 1976.



**September 1: Mineral Collectors, Richard and Douglas Graeme, Bisbee, Arizona**

Twin brothers Doug & Rich Graeme were collecting underground with their father by age six. Minerals and mining were the focal points of their youth, with many hundreds of hours spent underground in Bisbee and other western mining areas collecting minerals and mining artifacts. Currently, running tour groups through the famous Copper Queen Mine, Richard, and Douglas also co-curate the Graeme Family Collection - a broad-based Bisbee collection of about 5,000 specimens with over 500 of them being display quality pieces. Most of these specimens were field collected by the Graeme family - a tradition that dates to 1895. They are also co-authors of many books.



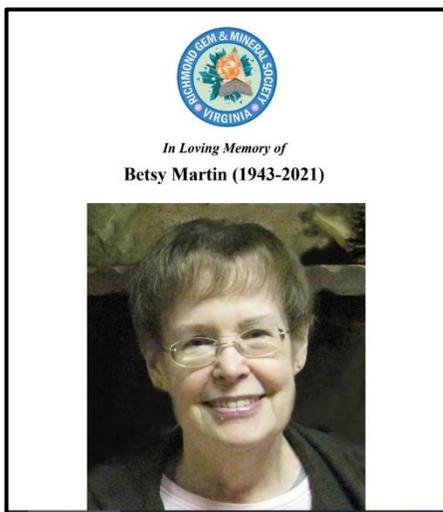
**Father Graeme book by Richard & Doug**

Each month, on the first Wednesday at 1pm EDT Bryan Swoboda, Blue Cap Productions in Honolulu, Hawaii presents various mineral persons of interest on Zoom. All MLT lectures are complementary to our geology community through Dr. Rachel Alanzo Perez from the Mineralogical & Geological Museum at Harvard University, and Dr. Eloise-Gaillou, curator of the Mineralogy Museum Paris School of Mines in France representing the Society of Mineral Museum Professionals SMMP. Each program is recorded, so you can view archived speaker topics.

<http://go.mineraltalkslive.com>

**In Loving Memory of Betsy Martin  
(1943-2021)**

by Thomas Hale, President Virginia Mineral Project



**“Never forget to appreciate the small things in life...”**

Betsy Martin (October 7, 1943 – June 21, 2021) Micromounter, Morefield Mine Expert... With the passing of Betsy Martin, the micromineral world has lost a giant, and many of us have lost a great friend and mentor. As we mourn her death, it is fitting that we also celebrate her life, her many achievements, and her legacy. A teacher by profession, Betsy Martin was a renowned micromounter and mineral researcher for over 30 years. During this time, she contributed award-winning articles to many publications with both hobby and professional status.

A life member of the Richmond Gem and Mineral Society, Betsy held several executive positions. She held the club's librarian and historian position for over 25 years, designing and maintaining the best historical archives of a gem and mineral society in Virginia. Betsy was also a long-time member of the Micromounters of the National Capital Area, the Virginia Independent Prospectors (VIP), and acted as Safety Chairman for the Eastern Federation of Mineralogical and Lapidary Societies. In addition to club activities, she spent over twenty years as a micromount dealer, acquiring, refurbishing, and redistributing old collections to provide specimens to aid others in developing their own collections. Not

only was Betsy a prolific self-taught mineralogist, but she was also a master gardener, artist, and avid skier. Betsy co-founded a special interest group, known as “Rockrappers,” which met monthly for the study of microminerals in her home. Betsy created her own “mini lab” in her basement, providing microscopes, tools, supplies, micromount material, and personal instruction during these monthly meetings. She created a welcoming environment where so many were introduced to the world of minerals. Her willingness to host these events and bring people into her home lasted until the end.

Betsy understood that her knowledge and stories needed to be preserved, so she worked diligently over the years to digitize and catalog records of the club, her research, and state mineral locality information. Through this digitization, Betsy ensured her research and knowledge would be preserved for future generations. Over 750GB of data has been preserved with the Virginia Mineral Project. She also provided other services to the organizations she was a member of, including photomicrographic services and programs on mineralogy and microminerals. She was indefatigable in her labors.

Perhaps her most passionate work, occupying more than 25 years, was her research into the mineralogy and development of the famous Morefield Pegmatite in Amelia County, Virginia. She published detailed descriptions of the mine and its minerals, spent many hours in sample preparation and documentation for testing, and carried out the photomicrography and digitizing work required in maintaining the historical record. Her efforts earned her co-authorship in publications in several professional journals. These contributions in 2000, 2004, and 2016 provided detailed reports of new mineral discoveries at the mine.

At her home, Betsy stored her own Morefield Mine research collection of microminerals that has been used at James Madison University and the Smithsonian Institute for research. In 2019, Betsy was inducted into the Micromounters' Hall of Fame and was recognized for her continued contributions to the field of mineralogy and to the hobby of micromounting.

continued next page

## Betsy Martin continued

Above all else, Betsy was a teacher who was willing to share her knowledge with anyone who asked. She was the conduit into the micromineral world for many and was regarded as a mentor by those who knew her well. Her patience and passion led the way for those new to the hobby of mineral collecting. No one was a stranger and she made everyone feel important.

Betsy understood what it meant to enter the hobby without prior knowledge or professional experience and to use one's own passion to educate and become an expert. Betsy always saw the beauty underneath the dirt and always questioned what new things could be discovered underneath the microscope.

Betsy's ultimate mission was to discover a new mineral species at the Morefield Mine of which she would name "morefieldite." She pursued this mission vigorously during her life, logging in hundreds of hours looking at material under the scope for discrepancies and "unknowns." While this was not achieved during her lifetime, Betsy's immaculate and well-organized Morefield Mine research collection will be preserved to continue the work she started.

Betsy's contributions and achievements in a male-dominated hobby will never be forgotten. Her legacy will live on within the work and outreach of the Virginia Mineral Project and her Richmond club family. For Betsy, preserving her collection and meticulously documenting her knowledge, was her own way of ensuring future aspiring mineralogists and micromounters will remember her work.

Betsy was survived by her husband Mike Martin and two nephews, Steve, and Mike Henderson.



**2007: (L-R) Sam Dunaway, Betsy Martin, Mike Martin, and Mike Hatskel at the Morefield Mine**



**Betsy inspecting amazonite underground at the Morefield Mine in Amelia, Virginia**



**Betsy is inducted into the Micromounters Hall of Fame at the Paul Desautels Micromount Symposium in 2019. Steve Weinberger presents the honors.**

*This memorial to Betsy was written by Thomas Hale with help and input from many of her friends, including August Dietz, Dave Lines, Jane Owen, Ken Turner, Pamm Bryant, Phil and Carole Mathes, Rudy Bland, Scott Duresky and Sharon and Sam Dunaway.*

REFERENCES Kearns, L.E., Martin, B.S. (2000) The Morefield Pegmatite, Amelia, Virginia. Mineral Update. Virginia Minerals: 46(2): 9-13. Kearns, L.E., Martin, B.S. (2004) New Discoveries from the Morefield Pegmatite, Amelia, Virginia. Rocks & Minerals: 79(4): 256-256. Kearns, L.E., Martin, B.S., Wise, M.A. (2016) Mineral Discoveries at the Morefield Pegmatite of Amelia, Virginia. Mineral News: 32(3)

## Micromineralogists of the National Capital Area, Inc.



American Federation of  
Mineralogical Societies

(AFMS)  
[www.amfed.org](http://www.amfed.org)

**Please read the AFMS bulletin attached in original monthly email to MNCA members.**

2021 Purpose of the AFMS: To promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary, and related subjects, and to sponsor and provide ways to coordinate the work and efforts of all interested persons and groups; to sponsor and encourage the formation and international development of Societies and Regional Federations and thereby to strive toward greater international good will and fellowship.

Congratulations! **Matt Charsky** Arlington, Virginia was recently voted as 1st Vice President of the American Federation, representing the EFMLS.

**University of Arizona Alfie Norville Gem and Mineral Museum at the Historic Pima County Courthouse, Is Now Open!**

By S. Kaminski, Mineralogical Society of Arizona

A new gem, and mineral museum has opened in Tucson, Arizona. The University of Arizona Alfie Norville Gem & Mineral Museum (UAANGMM) is located within the historic Pima County Courthouse, an iconic and historic building of magnificent Spanish Revival architecture in the heart of Tucson

\*Full article published in the AFMS News Sept 2021



**The Rock & Gem magazine is recognized as the official magazine of the AFMS.**

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Eastern Federation of  
Mineralogical and Lapidary  
Societies

(EFMLS)  
<https://efmls.org>

**Communication and Involvement  
Are the Keys to Our Success!**

**Please read the EFMLS bulletin attached in original monthly email to MNCA members.**

### Local Geology Club Meetings:

#### September 2021

**1: Mineralogical Society of the District of Columbia - MSDC 7:30 Zoom**

[www.mineralogicalsocietyofdc.org](http://www.mineralogicalsocietyofdc.org)

**13: The Gem, Lapidary and Mineral Society of Montgomery County, Maryland - GLMSMC**

7:30 pm - Zoom [www.glmsmc.com](http://www.glmsmc.com)

**15: The Baltimore Mineral Society BMS**

7pm Zoom [www.baltimoremineralsociety.org](http://www.baltimoremineralsociety.org)

**17: The Gem, Lapidary and Mineral Society of Washington, DC - GLMS-DC meeting**

[www.glmsdc.org](http://www.glmsdc.org)

**22: Micromineralogists of the National Capital Area, Inc. - MNCA 7:30pm Zoom**

[www.dcmicrominerals.org](http://www.dcmicrominerals.org)

**27: Northern VA Mineral Club – NVMC meeting**

7:30 Zoom [www.novamineralclub.org](http://www.novamineralclub.org)

**October 9: Desautels Micromount Symposium**

hosted by the Baltimore Mineral Society of Maryland 1pm. Zoom Hall of Fame Inductions: Jean-Luc Designolle & Dr. Anthony Kampf, which will be followed by the announcement of new candidates.

\*Jean-Luc – “Micromounts of the Sancy Massif”

\*Tony – “The Journey from an Unknown to a New Mineral”

Register with Mike Seeds [mseeds@fandm.edu](mailto:mseeds@fandm.edu) invite. [www.baltimoremineralsociety.org](http://www.baltimoremineralsociety.org)

## Micromineralogists of the National Capital Area, Inc.



### GeoWord of the Day and its definition:

**Coordination number** (co-or''-di-na'-tion) In crystallography, the number of nearest neighbor ions that surround a given ion in the crystal structure, e.g., four, six, or eight.

**cronusite** A submetallic black rhombohedral meteorite mineral:  $\text{Ca}_{0.2}\text{CrS}_2 \cdot 2\text{H}_2\text{O}$ .

**ferroceladonite** A micaceous blue-green monoclinic mineral of the *mica* group:  $\text{K}(\text{Fe}^{2+}, \text{Mg})(\text{Fe}^{3+}, \text{Al})\text{Si}_4\text{O}_{10}(\text{OH})_2$ .

**hercynite** (her'-cy-nite) A black cubic mineral of the *spinel* group:  $\text{Fe}^{2+}\text{Al}_2\text{O}_4$ . It often contains some magnesium. Syn: *iron spinel*; *ferrospinel*.

**johannsenite** (jo-hann'-sen-ite) A colorless, clove-brown, grayish, blue, or greenish monoclinic mineral of the *pyroxene* group:  $\text{CaMn}^{2+}\text{Si}_2\text{O}_6$ .

**thorianite** (thor'-i-a-nite) A submetallic gray, brown, or black mineral of the uraninite group:  $\text{ThO}_2$ . It often contains rare-earth metals and uranium and is strongly radioactive.

All terms and definitions come from the [Glossary of Geology, 5th Edition Revised](#). GeoWord of the Day is brought to you by: EnviroTech! [envirotechonline.com/wordoftheday@agiweb.org](http://envirotechonline.com/wordoftheday@agiweb.org)

AGI was founded in 1948, under a directive of the National Academy of Sciences. It is a not-for-profit 501(c)(3) organization dedicated to serving the geoscience community and addressing the needs of society. AGI headquarters are in Alexandria, Virginia.

**Micromineralogists of the National Capital Area Meeting:** The 4th Wed. of each month 7:30 -10 p.m. Long Branch Nature Center (No meetings July & Aug) 625 S. Carlin Springs Road, Arlington VA 22204 Phone (703) 228-6535 (Long Branch is still closed)

**MNCA Purpose:** To promote, educate and encourage interest in geology, mineralogy, and related sciences.

President: Dave MacLean  
Vice President: David Fryauff  
Secretary: Bob Cooke  
Treasurer: Michael Pabst  
Editor/Historian: Kathy Hrechka  
Website: Kathy Hrechka  
AMC Conference: Kathy Hrechka

#### The society is a member of:

\* Eastern Federation of Mineralogical and Lapidary Societies (EFMLS) [www.efmls.org](http://www.efmls.org)  
\* American Federation of Mineralogical Societies (AFMS) [www.amfed.org](http://www.amfed.org) affiliation

**Dues:** MNCA Membership **No Dues 2021**  
\$15 (single) or \$20 (family) donations  
**MNCA - Michael Pabst, Treasurer**  
**270 Rachel Drive**  
**Penn Laird, VA 22846**

#### Editor's Note: By Kathy Hrechka

Send your articles and photos to your editor.  
**Club Article Deadline is 1st of each month.**  
**The Mineral Mite will be emailed on 5th.**  
**No newsletter July/August**

#### Inducted into Editor's Hall of Fame – 2018 AFMS Trophy 2019 Small bulletins



#### Newsletter inputs:

\*Dave MacLean  
\*David Fryauff  
\*Scott Duresky  
\*Michael Pabst  
\*Kathy Hrechka  
\*Mary Bateman  
\*Herwig Pelckmans  
\*Thomas Hale  
\*Drs. Lance & Cindy Kearns

