

## Zoom Meeting May 26 Time: 7:30 p.m.

### Program: Microstructures in Meteorites and their Relation to the Formation of the Solar System

by Derek Yoost, New Jersey

Did you ever wonder how scientists know how the solar system formed and its age? Derek will demonstrate some of the meteorites that show interesting structures, including chondrules under magnification, and how they relate to the large-scale formation of our Sun and solar system. Most of these meteorites are about 4.5 billion years old and come from the very earliest stages of our solar system formation. Derek's meteorite collection contains over 350 different falls and finds. Meteorites represent the ONLY samples that we have preserved for study from that long ago time scale. Continued p2

### President's Message:

by Dave MacLean



The Last Bonanza from Manassas Quarry: Beginning in early 2010 we began to find abundant stilbite, stellerite, and chabazite near a contact zone between siltstone and Triassic diabase on an intermediate level of the quarry. There was a lot of red (hematite) stain near the contact zone. The September 2010 visit gave us a good haul.

In the second highest level of the quarry accessible only by driving around the quarry had a crumbly wall and piles of rock showing and diabase contact zone near a siltstone with abundant stilbite and lesser amounts of stellerite with traces of micaceous hematite and red hematite stains. In winter of 2012-13 the quarry owner blasted this area and left an easily accessible vast pile of vuggy rocks.

There were piles of vuggy diabase containing lots of stilbite, stellerite and chabazite. Some of us hand-picked micro size and thumbnail size vugs containing crystals while others chipped vugs out of larger rocks. We all went home with full buckets.

When I went to Manassas quarry again in late 2013 or early 2014 those rich piles had been taken away and the quarry was swept clean. It appeared that the vuggy diabase was too crumbly to use as aggregate and was in a waste pile somewhere else.

I realized that this was common practice for quarries to blast rock, and immediately take it to the crusher or perhaps to a waste pile. My subsequent four and last visits to Manassas quarry were empty bucket visits except for diabase slabs for an access walk down or backyard hill to the mulch pile. Anyway, I celebrate the fun we had.

### Photo of the Month:



**Bismuthinite: Quintin Wight AMC '21**

## Program: Microstructures in Meteorites and their Relation to the Formation of the Solar System continued

Derek began collecting a few meteorites when he was nine years old. He would go to Jim's Gems (rock shop in the 1980's) on Route 23 in Wayne, NY and would buy minerals, fossils, and sometimes meteorites. Then in 1995 he purchased a Meteorite collection from a friend, which ultimately became an obsession. Now his meteorite collection contains over 350 different falls and finds, specimens from large impact structures on Earth, and historical meteorite memorabilia. Derek does all his own meteorite preparations and curating.

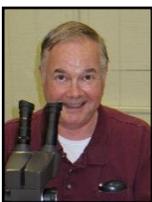
Derek's passion for fossil collecting started when he was 8 years old and has never stopped since. Starting at the age of 14, he worked in at Jim's Gems in Wayne, NJ and gleaned a vast knowledge for the collecting and lapidary hobby. For the past twenty-six years, his collection has grown to include fossil amber, fish, reptiles, and mammals that are unique to New Jersey, New York, Pennsylvania, and Maryland. He also collects local minerals from New Jersey, shells, bones, meteorites and other natural history items and artifacts. This hobby has brought him to many interesting localities while meeting fascinating people.

To date, he would guess that his favorite fossil that he found would be the insect (a blood sucking Midge that may have feed on dinosaurs) that he found in Cretaceous formations in Sayreville New Jersey. It was new to science and was eventually named after him (*Culicoides yoosti*). Derek maintains a website on his favorite fossil collecting site, Big Brook at njfossils.net.

## Previous Meeting Minutes: 4/28/21

by Bob Cooke, Secretary

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



## Previous Program Review: 4/28/21

by Kathy Hrechka, Editor

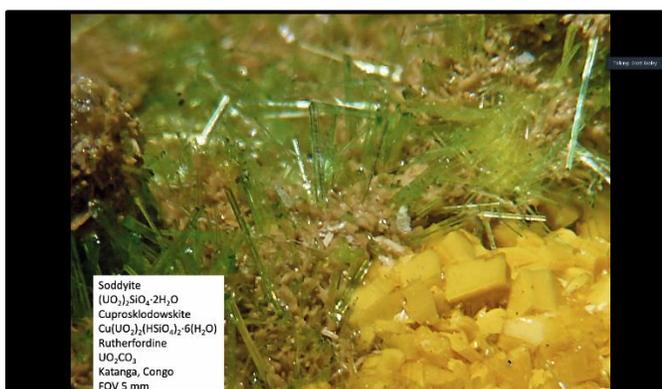
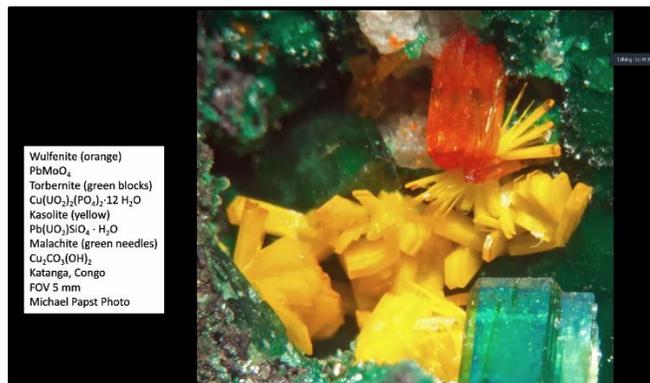
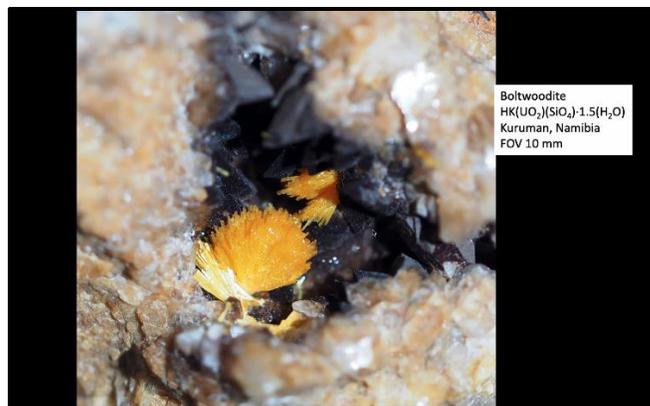
On April 28 Scott Braley of Santa Fe, New Mexico presented "Collecting Radioactive Minerals". He taught us that only a few isotopes last long enough for mineral formation. For example, U and Th each have several isotopes with very long half-lives, sufficient to form minerals (e.g.,  $^{238}\text{U}$  has a half-life of 4.5 billion years). K has a fairly long-lived isotope (1.25 billion years) that makes up about 0.01% of natural potassium and is incorporated into K minerals (and potassium-rich foods). Others can exist in very young minerals in small amounts.

Scott has been collecting minerals since childhood, with a focus on microminerals and photography for the last 15 years. Scott had previously been a member of the NVMC and the MNCA and is a past president of the GLMSMC. After retiring from the Air Force, he completed a PhD and is now a professor at a small college in northern New Mexico. With the recent limitations on travel, he spent much of the summer investigating some less well-known micromineral localities in his area of New Mexico.

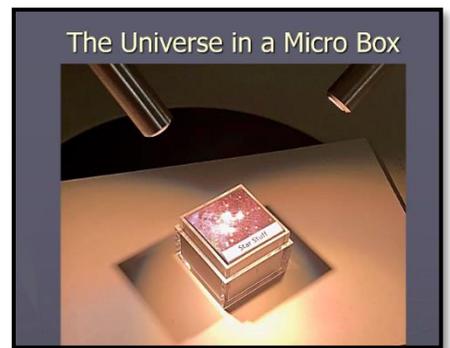
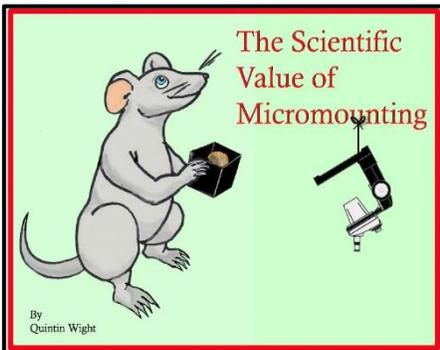
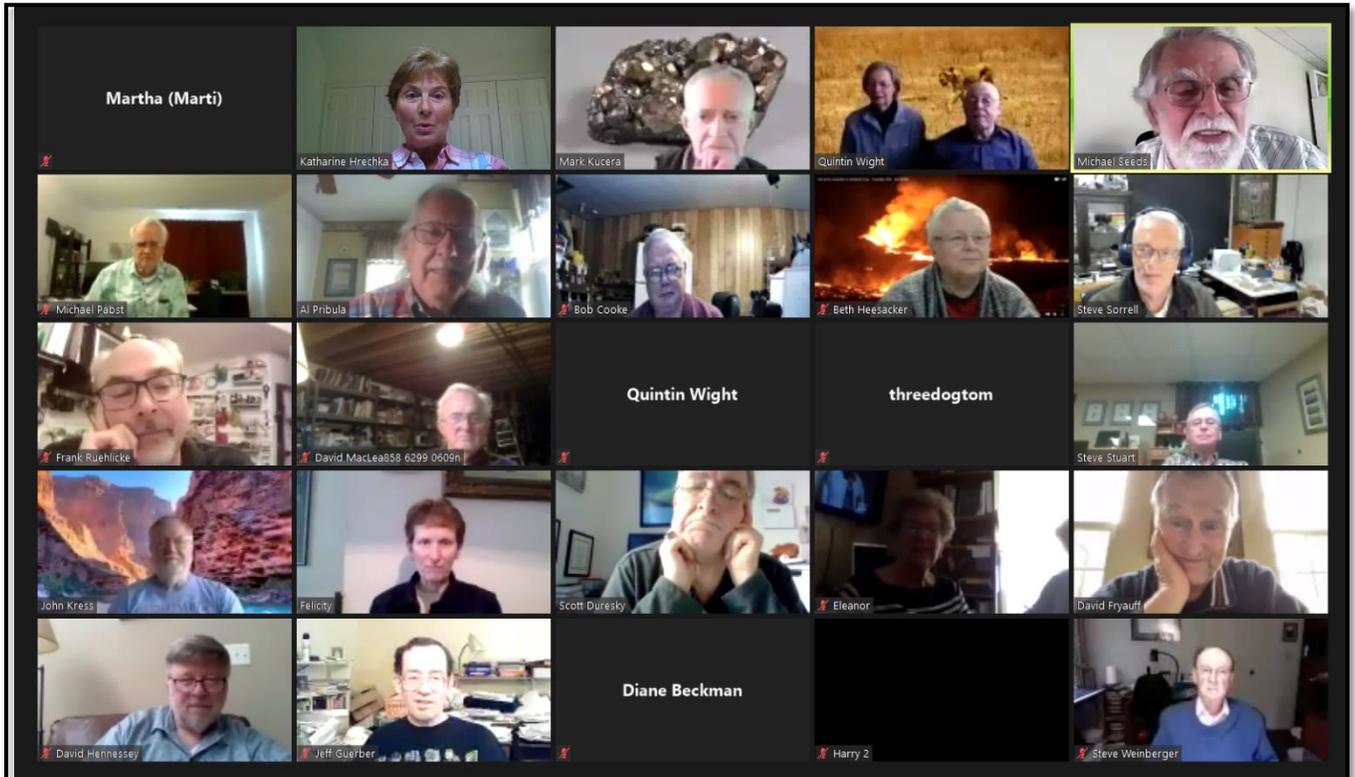


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# Micromineralogists of the National Capital Area, Inc.



**47<sup>th</sup> Atlantic Micromounters' Conference: April 10, 2021 Virtual Event  
Micromineralogists of the National Capital Area, Inc**



**Quintin Wight's program    Michael & Karen Pabst's auction    Mike Seed's program  
Lynch Station Turquoise won by Dave Hennessey**

**Conference note by Kathy Hrechka, AMC chair:** I would personally like to thank Quintin Wight, Michael & Karen Pabst, and Mike Seeds for creating our virtual Atlantic Micromounters' Conference 2021. Gratitude to Mark Kucera for Zoom hosting. To the attendees from Canada, South Africa, USA, and Australia; thank you for joining us and supporting our micromineral hobby. It was great to see everyone, even remotely. We had forty-four attendees, who provided great fellowship. Thank you!

**Our 47<sup>th</sup> Atlantic Micromounters' Conference - Virtual Event Recap**

By Kathy Hrechka, Editor & Conference chair

**The Scientific Value of Micromounting**

by Colonel (Ret.) Quintin Wight, CD, MA Canada

Quintin Wight revealed how valuable micromineral collecting is to the international mineral community. He gave credit to micromineral collectors who have discovered more than 285 new mineral species. 140 new minerals were found in the USA, more than 58 discovered in Canada, 37 in France, and 50 in Italy. His extensive research took us to places from museums to personal collections from around the globe.



Dr. Henry "Bumpi" Barwood, (1947-2016)

Barwoodite  
 $Mn^{2+}_6Nb^{5+}(SiO_4)_2O_4(OH)_3$

Photo: H. Barwood

Dr. Tony Kampf, Natural History Museum of Los Angeles County.

Tony has described more than 290 new mineral species, many of which were provided to him by micromounters. Tony and his curator colleague Aaron Celestian have more than 100,000 micromounts in the Museum's collection, and are actively seeking more.

In case you think that micromounters in science is a modern phenomenon!

Frank James Keeley, 1868-1949

A member of the Micromounters' Hall of Fame, Keeley found and described lansfordite and nesquehonite in 1888.

Lazard Cahn, (1865-1940)

Cahnite:  $Ca_2[B(OH)_4](AsO_4)$

Cahn created a micromount group in Colorado Springs. He gave away many mounts, but his personal collection of 3,700 specimens representing 685 species now languishes at Yale.

Leo Neal Yedlin, (1908-1977)

Discovered Yedlinite:  
 $Pb_6Cr^{3+}Cl_6(O,OH,H_2O)_8$   
 and Nealite:  
 $Pb_4Fe^{2+}(As^{3+}O_3)_2Cl_4 \cdot 2H_2O$

This is the cover of the 726-page catalogue of the Micromount collections in the Denver Museum of Nature and Science.

The Museum has 22,500 mounted specimens, plus 10,000 awaiting treatment—mostly diamonds from Hall of Fame member Paul Seel.

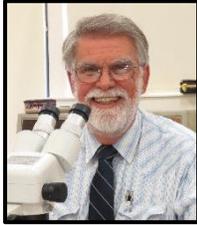
Photo: Willow Wight  
 John and a visiting Canadian (John is on the left).

One room in John's personal micromount museum.

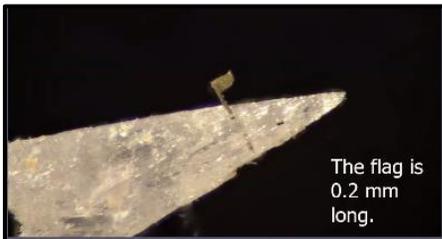
## The Universe in a Micro Box

by Mike Seeds PhD, Lancaster, Pennsylvania

Mike Seeds combined his experience as an astronomer with his love of minerals to trace the different ways stars have made the atoms in minerals. Mike explained how hydrogen and helium atoms were made in the big bang, with heavier elements to follow within star formations. He revealed how elements were cooked up in stars and, in some cases, blasted into existence in cataclysmic explosions called supernovae. Mike's talk illustrated photos of exploding stars associated with beautiful microminerals, which we enjoy collecting



Strontianite  
 $\text{SrCO}_3$   
 Meckley's Quarry, Mandata, Pennsylvania



Pyrite on Calcite  
 $\text{FeS}_2$   
 Rt 8 Roadcut, Watertown Connecticut  
 1963 Marcelle Weber

The flag is  
 0.2 mm  
 long.



Autunite  
 w/ Saeceite  
 Urgeirica  
 Portugal

Harvey  
 Cantor  
 Material



U 4.68 byr

UV

### Periodic Table

1 H																	2 He						
3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne						
11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar						
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr						
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe						
55 Cs	56 Ba	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn							
87 Fr	88 Ra																						
		89 La	90 Ce	91 Pr	92 Nd	93 Pm	94 Sm	95 Eu	96 Gd	97 Tb	98 Dy	99 Ho	100 Er	101 Tm	102 Yb	103 Lu							
		104 Ac	105 Th	106 Pa	107 U	108 Np	109 Pu	Very radioactive isotopes; nothing left from stars															
short-lived radioactive isotopes; nothing left from stars																							
Big Bang fusion				merging neutron stars?				dying low-mass stars				cosmic ray fission				exploding massive stars				exploding white dwarfs			

**Stephanite**  
 exploding massive stars

## Stephanite

by Michael Pabst PhD, Treasurer

Stephanite is a black silver antimony sulfosalt  $\text{Ag}_5\text{SbS}_4$ . Many of the silver sulfosalts we looked at previously had both antimony and arsenic versions, like Pyrargyrite  $\text{Ag}_3\text{SbS}_3$  and Proustite  $\text{Ag}_3\text{AsS}_3$ . As far as I can tell, there is no arsenic equivalent of Stephanite. I have not seen an explanation as to why arsenic does not work.

Stephanite is orthorhombic  $mm2$  – pyramidal, commonly seen as pseudo-hexagonal prisms that sometimes lack top-to-bottom symmetry. It is silver-gray in color, and soft (2 -2½) like other silver sulfosalts.

Stephanite occurs as a late-stage silver mineral in hydrothermal veins. In some localities, massive Stephanite can be an important ore of silver. It is often associated with Pyrargyrite  $\text{Ag}_3\text{SbS}_3$  and Polybasite  $[(\text{Ag},\text{Cu})_6\text{Sb}_2\text{S}_7][\text{Ag}_9\text{CuS}_4]$ . Stephanite was named for Archduke Stephan Franz Viktor von Habsburg-Lothringen (1817-1867), Austrian Mining Director and Palatine of Hungary.

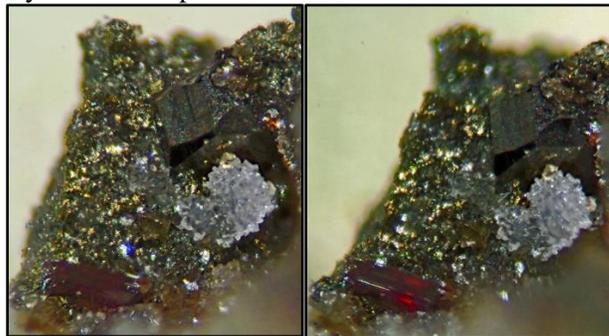
The first photo of Stephanite comes from a specimen I collected from the Nabob Mine in Colorado.



**Stephanite** (black on left) and **Pyrargyrite** (red on right). Nabob Mine, Larsen, Clear Creek Co., CO. FOV 1.4 mm. (Specimen #610.) Photo by Michael Pabst, using 10X Mitutoyo lens on bellows.



Here is a stereo view, from another angle, that might make it easier to visualize the shape of the Stephanite crystal in this specimen:



Stereo pair taken with stereo microscope, stacking 14 images. Parallel view. This view allows you to see the shiny top of the Stephanite crystal. FOV 1.4 mm. Photos by Michael Pabst.

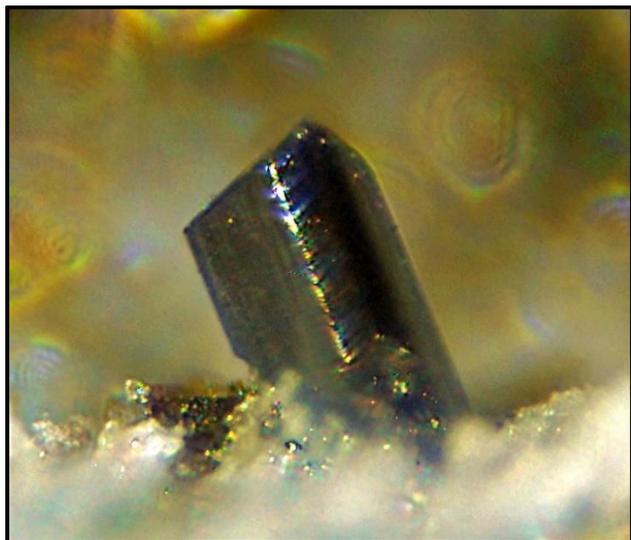


**Stephanite**, Nabob Mine, Larsen, Clear Creek Co., CO. (Specimen #117.) FOV 1.2 mm. Photo by Michael Pabst, using stereo microscope, stacking 23 images.

From the same specimen above, a tiny crystal, presumably Stephanite, but maybe it is Bournonite  $\text{PbCuSbS}_3$  or something else.

continued next page

## Stephanite continued



**Stephanite**, Nabob mine. FOV 1 mm. (Specimen #117.) Photo by Michael Pabst, using stereo microscope, stacking 8 images.

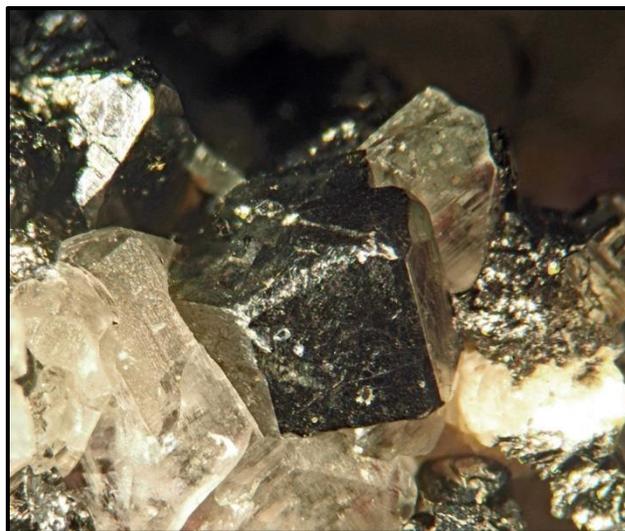
If you were thinking that maybe this is just dark Pyrargyrite, here is a photo of a real Pyrargyrite crystal from nearby on the same specimen. Even though this Pyrargyrite crystal is bigger, it is still clearly deep red, not black.



**Pyrargyrite**, Nabob Mine. FOV 3 mm. Photo by Michael Pabst, using stereo microscope, stacking 20 images.

On Mindat, there is only one photo of Stephanite from Colorado; it comes from the Empress Josephine Mine in Saguache County: <https://www.mindat.org/photo-968662.html>. Even this one specimen comes with a question mark.

I have one other specimen of Stephanite, not from the Nabob Mine, in my collection. This specimen comes from Guanajuato, Mexico.



**Stephanite**, maybe Valenciana Mine(?), Guanajuato, Mexico. FOV 2.5 mm. Photo by Michael Pabst, using Mitutoyo lens and bellows, stacking 19 images.

A recent edition of the *Mineralogical Record* (Jan-Feb 2021) has a cover photo of Stephanite from the Husky Mine, Yukon Territory, Canada. The remarkable feature of all the silver sulfosalts from this mine is iridescence, which I have not seen in other silver localities. Here is a link showing the cover photo:

[https://mineralogicalrecord.com/back\\_issues/husky-mine/](https://mineralogicalrecord.com/back_issues/husky-mine/).

There are beautiful specimens of Stephanite on Mindat. Here are some of my favorites:

From the Husky Mine, Yukon:

<https://www.mindat.org/photo-57435.html>.

From Zacatecas, Mexico:

<https://www.mindat.org/photo-119895.html>.

From Slovakia:

<https://www.mindat.org/photo-81858.html>.

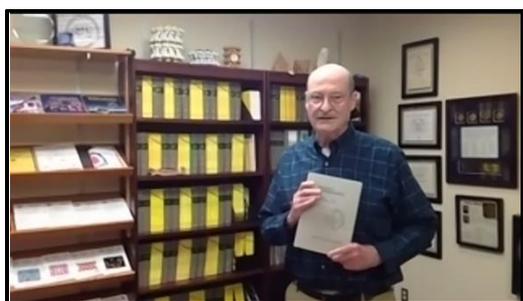
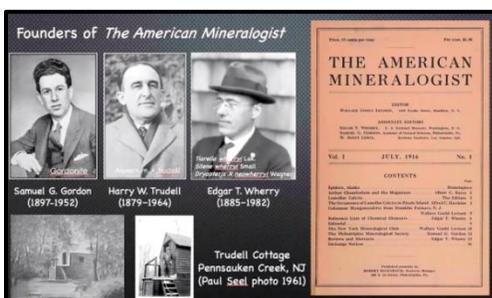
For my next article, I have in mind a rare and pretty silver mineral that was only recently found to have silver as part of its crystal structure, Quetzalcoatlite.

## Mineral Talks Live: 1pm Wednesdays

by Kathy Hrechka, Editor

Each Wednesday at 1pm EDT Bryan Swoboda, Blue Cap Productions in Honolulu, Hawaii has been moderating various mineral persons of interest on Zoom. Each of his programs are recorded, so you can view archived speaker topics.

J. Alex Speer, Senior Fellow of the Mineralogical Society of America was featured on April 14. American Mineralogist (Am Min), is the flagship journal of the Mineralogical Society of America (MSA), continuously published since 1916. Alex was the Executive Director of the MSA from 1995 - 2020 and he has a WEALTH of information to share about the history of this incredible organization, the important role it continues to play and how it can help mineral collectors around the world.



All Mineral Talks Live lectures are complementary to our geology community through the following individuals: Bryon Swoboda BCP, 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.

<http://go.mineraltalkslive.com>

## 47<sup>th</sup> Annual Atlantic Micromounters' Conference: viewer inputs

Mark Kucera, NY: [lithothek@gmx.de](mailto:lithothek@gmx.de) was the link for the German collection. (English translation too)

Jeff Guerber, VA: **Armalcolite** was a new mineral from the moon named for Armstrong, Aldrin, and Collins.

Steve Sorrell: Victoria, Australia

[https://www.youtube.com/channel/UC29\\_RY\\_PZF\\_X87iVnqX7BMWw](https://www.youtube.com/channel/UC29_RY_PZF_X87iVnqX7BMWw) The link contains an archive of Micromount Club Zoom meetings, hosted by Steve.

## Microminerals “Down Under”

by Kathy Hrechka, Editor



Our MNCA December 23, 2020 featured speaker was Steve Sorrell from Melbourne, Australia. He hosts a program every other Tuesday at 3pm (EDT) with various geology persons of interest. You can sign up for Steve's programs, and meet new presenters, while enjoying friendly faces within our geology community around the globe.

[steve@sorrellpublications.com](mailto:steve@sorrellpublications.com)

## Friends of Mineralogy Virginia FMVA

by Kathy Hrechka, Editor



On April 30, Brian Kosnar presented “Colorado Gold”. His talk was a thorough history of gold mining in Colorado starting with the first gold rush in the late 1850s. He even traced the Hope Diamond to the riches of mining gold in Colorado. Screenshots p. 10.

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.

Micromineralogists of the National Capital Area, Inc.

**A Brief History of Gold Mining in Colorado**  
**From 1859 to Today**

With Photos by Angela Kosnar, Brian Kosnar, Richard Kosnar, Tresa Foster (Kosnar) and various online resources • •

Calaverite with precipitated Gold  
 Crystal 0.75 mm  
 Cripple Creek District, Teller County, Colorado  
 Karl Volkman Photo

Colorado was founded because of gold mining.  
 The original and present day State Seal of Colorado has a pick and hammer on it !!

Gold (thick "ribbon") on Quartz  
 10.5 x 6.4 x 5.4 cm  
 Smuggler Union Consolidated Mine, Marshall Basin, Telluride District, San Miguel County, Colorado  
 Collected by J. B. Ingram in 1878.  
 Specimens #144 and #145 in the CSHS Catalogue

Glory Hole Mine, Central City  
 Crystal City Mill  
 Moyer Mine, Leadville  
 Miners at Cripple Creek  
 Argo Mine / Mill, Idaho Springs  
 Summitville  
 Farncomb Hill, Breckenridge

Gold (The "Flag") (large crystallized group)  
 Farncomb Hill, Breckenridge, Summit County, Colorado  
 In the Collection of the Denver Museum of Nature and Science  
 ex - John F. Campion Specimen

Gold w/ Rhodochrosite on Sphalerite  
 Brooklyn Mine, San Juan County, CO  
 Field of view 1.2 cm.

Thomas F. Walsh  
 (April 2, 1850 - April 8, 1910)  
 Discovered the Camp Bird Mine in 1896.  
 Owner of the Hope Diamond.  
 In a short period of time, Walsh extracted a fortune totaling \$3,700,000 (equivalent to \$86,864,000 in 2016).

FATHER STRUCK IT RICH  
 Evalyn Walsh McLean

## Micromineralogists of the National Capital Area, Inc.



American Federation of Mineralogical Societies

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



Eastern Federation of Mineralogical and Lapidary Societies

(EFMLS)  
<https://efmls.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.

The A.F.M.S. Newsletter is normally published monthly except January, July, and August by the American Federation of Mineralogical Societies. Each Regional Federation Club is entitled to receive three (3) copies of the AFMS Newsletter. These are usually sent to the President, Federation Director and Editor. Subscription Information, Distribution Questions and address changes should be sent to the AFMS Central Office.

## Rock&Gem



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

Free archived downloads [Rock & Gem Magazine Archive](#) : [Free Download, Borrow, and Streaming](#) : [Internet Archive](#)

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: **Zoom**

May 2021

**1: Canadian Micro Mineral Association 2021 Online Symposium** contact Frank Ruehlicke  
[https://us02web.zoom.us/join/91012920000?pwd=Z0oE9zzXXc4bDTuvS\\_r-vS4BSV8](https://us02web.zoom.us/join/91012920000?pwd=Z0oE9zzXXc4bDTuvS_r-vS4BSV8)

2:15 Welcome

2:30 Dr. Inna Lykova *Tolbachik, Kamchatka: A Micromounters Paradise*

3:30 CMMA Business Meeting

3:45 Roy Starkey *Minerals Of The English Midlands*

4:45 Dr. Anthony Kampf *The Journey From An Unknown To A New Mineral*

5:45 Virtual Wine & Cheese Reception

**5: Mineralogical Society of the District of Columbia - MSDC 7:30 Zoom**  
[www.mineralogicalsocietyofdc.org](http://www.mineralogicalsocietyofdc.org)

**10: The Gem, Lapidary and Mineral Society of Montgomery County, Maryland - GLMSMC 7:30 pm - Zoom** [www.glmsmc.com](http://www.glmsmc.com)

**19: The Baltimore Mineral Society 7pm Zoom**

**21: The Gem, Lapidary and Mineral Society of Washington, DC - GLMS-DC meeting**  
[www.glmsdc.org](http://www.glmsdc.org)

**24: Northern VA Mineral Club – NVMC meeting 7:30 Zoom** [www.novamineralclub.org](http://www.novamineralclub.org)

**26: Micromineralogists of the National Capital Area, Inc. - MNCA 7:30pm Zoom**  
[www.dcmicrominerals.org](http://www.dcmicrominerals.org)

## Micromineralogists of the National Capital Area, Inc.



### GeoWord of the Day and its definition:

**ferropargasite** (fer-ro-par'-gas-ite) A brown monoclinic mineral of the *amphibole* group, representing pargasite with essential Fe<sup>2+</sup>: NaCa<sub>2</sub>(Fe<sup>2+</sup><sub>4</sub>Al)(Si<sub>6</sub>Al<sub>2</sub>)O<sub>22</sub>(OH)<sub>2</sub>.

**saponite** (sap'-o-nite) A trioctahedral member of the *montmorillonite* group that is somewhat different from the other members of the group in that it has a positive charge on the octahedral sheet that partially compensates for a large negative charge on the tetrahedral sheet. An ideal formula: R<sub>0.33</sub>(Mg<sub>2.67</sub>Fe<sub>0.33</sub>)(Si<sub>3.34</sub>Al<sub>0.66</sub>)O<sub>10</sub>(OH)<sub>2</sub>•4H<sub>2</sub>O. Cf: *smectite*.

**woodhouseite** (wood'-house-ite) A colorless or pale orange rhombohedral mineral of the *beudantite* group: CaAl<sub>3</sub>(PO<sub>4</sub>)(SO<sub>4</sub>)(OH)<sub>6</sub>.

All terms and definitions come from the [Glossary of Geology, 5th Edition Revised](#).

GeoWord of the Day is brought to you by: EnviroTech!

[envirotechonline.comwordoftheday@agiweb.org](mailto:envirotechonline.comwordoftheday@agiweb.org)

AGI was founded in 1948, under a directive of the National Academy of Sciences, as a network of associations representing geoscientists with a diverse array of skills and knowledge of our planet. The Institute provides information services to geoscientists, serves as a voice of shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resilience to natural hazards, and the health of the environment.

AGI 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

\*Bob Cooke

\*Michael Pabst

\*Kathy Hrechka

\*Quintin Wight

\*Mike Seeds

