



THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

Colorado Springs  
Mineralogical Society  
*Founded in 1936*

Lazard Cahn  
Honorary President

May 2018

PICK&PACK

Vol 58.... Number #4

## CSMS General Assembly

**Thursday, May 17, 7:00 PM**

**Speaker: Dr. John Warn**

**Topic: "In The Pink" Himalayan Mine Tourmalines**

**Please note: Members whose last names begin with M-Z  
are responsible for refreshments in May**

**\*\*In case of inclement weather, please call\*\***

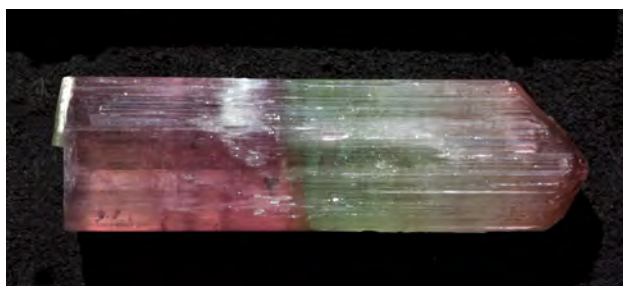
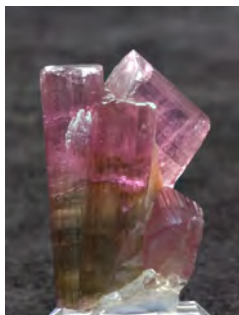
**Mt. Carmel Veteran's Service Center 719 309-4714**

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### More About Our May Speaker

John Warn was born and raised in southeastern Indiana on Cincinnati age rocks (Late Ordovician). He began collecting Ordovician fossils around 1955 at the age of 9. He later received a B.A. in Geology from DePauw University and M.S. and PhD degrees in Geology from the University of Cincinnati (concentrating on invertebrate paleontology – Ordovician Crinoids). His serious mineral collecting began in 1986 with his move to permanent residence in the Denver area and his annual attendance at the Denver Gem and Mineral Show. Warn began collecting in the Devils Head area with Jeff Self in 1990 and in the Mt. Antero region with John Melby in 1993. In 1995 he and Melby staked the White Lightning Lode claim on the south side of Mt. White. By the mid to late 1990's Warn's mineral interest had narrowed to elbaite tourmalines, and that interest in elbaite continues with fervor to this day.



COLORADO SPRINGS MINERALOGICAL SOCIETY PO BOX 2 COLORADO SPRINGS, COLORADO 80901-0002

# CSMS Calendar

May & June 2018

Thu., **May 3 & June 7** — **Board Meeting**, 7p.m., Pikes Peak United Methodist Church  
Tue., **May 1 & June 5** — **Fossil Group**, 7p.m., Methodist Church, Jerry Suchan, 303 648-3410  
Thu., **May 17** — **Pebble Pups & Jrs**, 5:30p.m., Mt. Carmel Ctr., Steve Veatch, 719 748-5010  
Thu., **May 17 & June 21** — **General Assembly**, 7p.m., Mt. Carmel Center  
Thu., **May 24 & June 28** — **Crystal Group**, 7p.m., Mt. Carmel Center, Kevin Witte, 719 638-7919  
Thu., **May 24 & June 28** — **Faceting Group** 7p.m., Medina's home, John Massie, 719 338-4276  
**Note: The Micromount Group is not meeting at this time. If you are interested in meeting, please call Dave Olsen, 719 495-8720**  
Appointment Only—**Jewelry Group**, Bill Arnson, 719 337-8070  
Appointment Only—**Lapidary Group**, Sharon Holte, 719 217-5683

For more information on any of the sub-groups, meetings, and other CSMS valuable information, go to our website, [csms1936.com](http://csms1936.com)

## Upcoming Events of Interest to CSMS Members

Submitted by Pete Modreski

**Tues., May 1**, 10:30 a.m., USGS Rocky Mountain Science Seminar, Building 25 Lecture Hall, Denver Federal Center, "**Exploring sedimentary environments in Gale Crater with the Mars Science Laboratory Rover**", by Lauren Edgar, USGS – Flagstaff.

**Thurs., May 3**, 7:00 p.m., First Thursday lecture series of the Friends of the Colorado School of Mines Geology Museum, **The Colorado-Wyoming State Line Kimberlite District**, by Philip Persson. All are welcome. Expected location: Ben H. Parker Student Center, Ballroom "E", Maple Street, Golden.

**Sat., May 5**, 11 a.m. – 2:45 p.m., **Colorado Mineral Society Silent Auction**, Holy Shepherd Lutheran Church, 920 Kipling St. (3 blocks north of West 6th Ave.) Lakewood. All welcome.

**Tues., May 8**, 6:00-8:00 p.m., "Golden Beer Talks": Johanna Kovarik, U.S.Forest Service, National Cave and Karst Program Coordinator, "**A Life Underground: Studying and Stewarding the Magical Subterranean World of Caves**". Windy Saddle Café, 1110 Washington Avenue, Golden. "Golden's grassroots version of TED talks, Expand your mind with a beer in your hand", see <http://goldenbeertalks.org/> . (Talk begins at about 6:35.)

**Tues., May 8**, 7:00 p.m., annual Emmons Lecture sponsored by the Colorado Scientific Society, **High drama at the Paleocene/Eocene boundary in the Bighorn Basin; implications for today**, by Will Clyde, University of New Hampshire. On the CSM campus, exact location TBA (I believe it will be in the Ben H. Parker Student Center Grand Ballroom).

**Thurs., May 10**, 7:30 p.m., Friends of Mineralogy, Colorado Chapter, bimonthly meeting, at Lakeview Event Center, 7864 W. Jewell Ave.: "**The W-Sn-Be deposit of Xuebaoding, Sichuan Province, China: current research, past, and future of a world class mineral locality**", by Markus Raschke, CU.

**Sat., May 12**, **Dinosaur Discovery Day**, featuring **Boy Scout Day** at Dinosaur Ridge, Morrison, CO. See [www.dinoridge.org](http://www.dinoridge.org) for full information.

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**Mon., May 14**, 7:00 p.m., DREGS (Denver Region Exploration Geologists' Society) annual Distinguished Lecturer, Dr. William A. (Bill) Rehrig, "**New Discoveries, New Questions – 60 Years in Exploration Geology**". Berthoud Hall Room 241 at Colorado School of Mines; social hour with refreshments beginning at 6:00 p.m.

**Sun., May 20**, 12 noon to 4 p.m., **Friends of Mineralogy, Colorado Chapter, Silent Auction**, at Clements Community Center, 1580 Yarrow St., Lakewood. All are welcome.

**Fri.-Sat.-Sun., June 1-3, Pikes Peak Gem & Mineral Show**, sponsored by the Colorado Springs Mineralogical Society; at the Norris-Penrose Event Center [new location], 1045 Lower Gold Camp Road #3, Colorado Springs.

**Sun., June 17**, I was going to publicize the date of the once-yearly **Geology Train** on the Cumbres & Toltec Scenic Railroad, Antonito, CO, but I've learned that this train trip is booked full up. Make reservations early next year! See their website, <http://cumbrestoltec.com/>.

***For more lecture series during the year see:***

**Colorado Beer Talks** (2<sup>nd</sup> Tuesday, 6-8 p.m.), Windy Saddle Café, 1110 Washington Avenue, Golden, "Golden's grassroots version of TED talks, Expand your mind with a beer in your hand", <http://goldenbeertalks.org/>

**Colorado Café Scientifique in Denver**, monthly lectures on science topics held either at Blake Street Station or Brooklyn's, Denver; open to the public, no charge other than refreshments you may choose to purchase; see <http://cafescicolorado.org/>

**Colorado Scientific Society** (3<sup>rd</sup> Thursday, 7 p.m.), see <http://coloscisoc.org/>. Meets at Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood CO, except when noted

**CU Geological Science Colloquium** (Wednesdays, 4 p.m.), see <http://www.colorado.edu/geologicalsciences/colloquium>

**CSU Dept. of Geoscience Seminars** (Fridays, 4 p.m.), see <https://warnercnr.colostate.edu/geosciences/geosciences-seminar-series/>

**Van Tuyl Lecture Series, Colorado School of Mines**, (Thursdays, 4 p.m.), <https://geology.mines.edu/events-calendar/lectures/>

**Denver Mining Club** (Mondays, 11:30), see <http://www.denverminingclub.org/>

**Denver Region Exploration Geologists Society** (DREGS; 1<sup>st</sup> Monday, 7 p.m.), <http://www.dregs.org/index.html>

**Florissant Scientific Society** (FSS); meets monthly in various Front Range locations for a lecture or field trip; meeting locations vary, normally on Sundays at noon; all interested persons are welcome to attend the meetings and trips; see <http://www.fss-co.org/> for details and schedules.

**Nerd Night Denver** is a theater-style evening featuring usually 3 short (20-minute) TED-style talks on science or related topics; held at the Oriental Theater, 4335 W. 44<sup>th</sup> Ave, Denver; drinks are available; for ages 18+. Admission is \$6 online in advance, \$10 at the door. See <https://www.nerdnitedenver.com/>

**Rocky Mountain Map Society** (RMMS; Denver Public Library, Gates Room, 3<sup>rd</sup> Tuesday, 5:30 p.m.), <http://rmmaps.org/>

**Western Interior Paleontology Society** (WIPS; Denver Museum of Nature & Science, 2<sup>nd</sup> Monday, 7 p.m.), <http://westernpaleo.org/>. Meetings are held either in the Ricketson Auditorium or the Planetarium at the Denver Museum of Nature & Science, unless otherwise noted.

## THE OTHER SHOWS AT TUCSON Part II

Mike Nelson    csrockguy@yahoo.com

After hitting the Westward Look Resort Show I headed over to the JOGS Tucson Gem and Mineral Show. JOGS is one of the “giant” shows with several hundred dealers (I was too lazy to count) and is restricted to wholesale buyers and “buyer tags” are required for entrance. I was able to attend with a qualified buyer and purchase a “public guest” ticket. JOGS is hard to describe—gigantic, more jewelry than I have ever seen in one place, beautiful multi-thousand dollars rings and pendants, faceted gem stones of all kinds from locations around the world, less expensive sterling silver jewelry with nice semi-precious stones, lots of findings (parts for jewelry making), and a few minerals (mostly amethyst cathedrals). I also noted that many/most dealers had a minimum purchase, usually \$200-300. This certainly was a venue for purchasing jewelry in large lots at wholesale prices for later retail sales. I listened as one buyer purchased 300 black onyx rings of mixed sizes, mostly 6,7,8. Each ring was packed in an individual “cellophane” bag with a size label. But I must admit that after looking at a couple of hundred booths most jewelry items appeared similar!

The most impressive mineral display, IMHO, were the large kyanite specimens from Minas Gerais, Brazil (the best information I could get from the Dealer) (Fig. 8). Kyanite is an aluminum silicate  $[Al_2(SiO_4)O]$  that comes in a variety of colors (white, black, blue-gray, gray, orange, green, black, and more) with vivid blue being the common variety and the favorite of collectors. Crystals, often bladed and long, are transparent to translucent with a vitreous to pearly luster. It is a very distinctive mineral and seems easy to identify (Fig. 9). In addition to form, kyanite has a variable hardness--- around 5 (Mohs) parallel to the C-Axis (long part of the crystal) and around 7 (Mohs) perpendicular to the C-Axis.



Fig. 8. Large clusters of elongated kyanite crystals priced at ~\$100---\$150. The largest single crystal is ~20 cm.



Fig. 9. My hand specimen of kyanite ~14 cm. purchased for \$5. The light-colored matrix appears to be talc and a small amount of quartz.

Kyanite is a metamorphic mineral and its presence indicates a specific temperature and pressure range. It is one of three aluminum silicate trimorphs with the other two being sillimanite and andalusite. I have other colors of kyanite in my collection (not with me) and several specimens of the other trimorphs; therefore, since I have a manuscript partially completed I will not offer additional information on kyanite. I just need to get a photo or two out for the readers.

Another very large venue at Tucson is the Arizona Mineral & Fossil Show held at the Hotel Tucson City Center. This is a fairly recent name and many of us still refer to it as the Inn Show. Whatever the name, this Show produces a wide variety of dealers: two levels of the hotel (a “hollow square arrangement”) on both the inside and the outside are filled with “room dealers;” ballrooms of the hotel have dealers (mostly finer mineral specimens and jewelry); tents are arranged in spaces near the front and one side of the hotel; and dealers are positioned in the lobby. In addition, the courtyard has a swimming pool, a few tents, and dinosaurs (well at least replicas). A large tent at the external side held Fine Minerals International, while Pinnacle 5 Minerals from Colorado Springs had a room of fine amazonite crystals. Several international dealers specialized in minerals from their home countries, while other rooms held more “mom and pop” specimens. Fossils were abundant, and the hotel bar seemed busy during both of my visits. During

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the weekend the venue was filled with happy children getting a photo op at the dinosaurs. I did not get a photo, but the most impressive piece, in my opinion, was a 100 carat, very gemmy, faceted pink kunzite set in a gold ring—well out of my price range but enjoyable to ogle (Figs. 10-14).



Fig. 10. This is a very nice marine reptile termed ichthyosaur or "fish lizard." Many persons confuse ichthyosaurs with dolphins; however, their similarity represents a great case of convergent evolution--development of similar features in species of different lineages. Ichthyosaurs are reptiles while dolphins are mammals.



Figs. 11 (upper) and 12 (lower). Dealers mining the Eocene Green River Formation of western Wyoming always contribute really nice specimens. Among them: a 63 inch palm flower and an 8 foot crocodile (*Borealosuchus wilsoni*). The flower had a price of \$60,000 while the crocodilian could be taken home for \$550,000 (I ordered 2)!

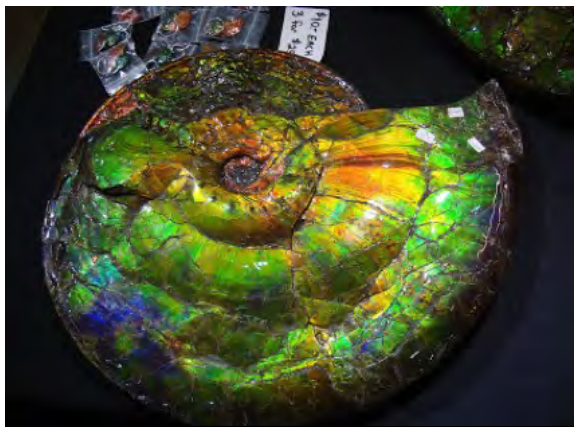


Fig. 13. I always enjoy the large display of Canadian (Alberta) ammolite, a name given to iridescent covering on large Cretaceous ammonites. Small amounts of ammolite are found in South Dakota and Montana but almost all jewelry or display specimens come from Alberta. Rockhounds should realize that the Province has strict collecting rules.



Fig. 14. This was one of my favorite specimens--a polished quartz crystal included with tourmaline.

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I did manage to snag a mineral or two at the mineral dealers including one that is sort of "different." Clinocllore is a member of the chlorite group of minerals, a common group of ubiquitous minerals occurring in a wide range of temperature conditions in metamorphic rocks, igneous rocks, and hydrothermal rocks. We think of chlorite minerals as being green in color; in fact, chlorite essentially refers to a green color in objects other than minerals (some chewing gum). However, the chlorite minerals are phyllosilicates that have a wide variety of cations (positive charge that impart the color) to go along with the silicate anions (negative charge). Phyllosilicates are also "sheet silicates" that form parallel sheets of the silicate tetrahedra and the minerals themselves reflect these parallel sheets--think biotite, muscovite, talc, kaolinite clay, etc.

"Common" clinocllore is a magnesium aluminum silicate  $[\text{Mg}_5\text{Al}(\text{AlSi}_3\text{O}_{10}(\text{OH})_8]$  and usually appears as stacks of sheets that are soft, greasy in luster, and some sort of green in color. Clinocllore often contains iron and as iron increases the mineral becomes chamosite in a solid solution series. But an interesting variety of clinocllore is kammererite (Figs. 15-16), a [purple to pink to red, chromium-bearing variety officially known as chromium clinocllore  $\text{Mg}_5(\text{Al,Cr})_2\text{Si}_3\text{O}_{10}(\text{OH})_8$ ]. It is not a common mineral (might be rare) and the best specimens may be from the Kop Krom Mine, Kop Daglan, Erzurum Province, Anatolia Region, Turkey.



Figs. 15 (L) & 16 (R) Two views of a nice large, asymmetrical pseudoheaxagonal crystal of kammererite showing the sheet like structure. More gemmy but smaller crystals are scattered. The matrix is composed of smaller masses of sheets. Width of "bottom" of triangle ~3 mm.

Kmererite is soft at ~2.0--2.5 (Mohs), transparent to translucent, has a greasy feel, and leaves a white streak. Since it is a sheet mineral, specimens have that perfect "mica-like" cleavage but stacking of the sheets often produces pseudo hexagonal "crystals." It belongs to the Monoclinic Crystal System. As for the geology at the collecting locality, the best I could locate is that the Kop Krom was a former chromite mine.

Clinocllore, including kammererite, is the result of metamorphic and hydrothermal alteration of iron- and magnesium-rich silicates such as amphiboles and pyroxenes, and especially of oceanic basalts. The kammererite variety seems to be the result of weathering of chromium-rich serpentine.

I hopped around to many other shows, sometimes two or three times, but article space prohibits a gazillion more words and photos. The first two weeks in February are a wonderful time to visit Tucson.

#### REFERENCES CITED

Bosi, F., 2018, Tourmaline crystal chemistry: American Mineralogist, v. 103.

## **CSMS 2018 Upcoming Field Trips**

### **Canon City,,Fremont, Co. May 9**

Leader: Billy Bell.

Contact: magik4@yahoo.com

### **Cretaceous Ammonite Locality, Kremmling, CO. May 19**

Guide: BLM Archeologist/Paleontologist Bill Wyatt

Leader: Mike Webb

Contact: mwebbstudent@yahoo.com

### **Victor Gold Mine Tour, Cripple Creek District, June 9**

Leader: Steven Veatch

Contact: steve.veatch@gmail.com

Limited to 12 participants

### **CF&I Wagon Wheel Gap Fluorspar Mine. June 16**

Leader: Mike Webb

Contact: mwebbstudent@yahoo.com

### **Last Chance Mine, Creede CO. June 17**

Leader: Mike Webb

Contact: mwebbstudent@yahoo.com

## **Upcoming Field Trip Descriptions**

### **Garnets – Canon City**

By Billy Bell



We will meet at the Pueblo Community College @ 51320 US-50, Cañon City, CO 81212, at 9:00 am on Wednesday May 9th. There is a nice parking lot on the back side of the campus. Just turn in off of Hwy 50 and drive around the college. We will leave @ 9:20. There is about 3 miles on the pavement and then 12 miles on dirt. A two wheel drive vehicle can make the trip no problem. The garnets cover the side of the hill. You can prospect right alongside the road, or go up the hill if you feel more adventurous. We rate this an EASY field trip because you can just stay right along the roadside and collect some great looking garnets.

Tools required – Hammer, Screen, Bucket, Hand Brush/Broom, Shovel, and a small box/bag for the Garnets.

Closest town is Canon City - about 15 miles.

Most of the Almandine Garnet specimens are very small 2mm-10mm stones. If you are lucky, you will find a 10mm+ specimen. All specimens are in crystalline form, and about 60% or more are gem quality, even the “bigger” ones.

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## PEBBLE PUPS CORNER



### CSMS Pebble Pups & Junior Group

The Junior Group & Pebble Pups meet at the Senior Center every third Thursday at 5:30 PM until 6:15 PM or so. We only meet during the academic year, and we include January. So, it is Sept through May.

Special announcements and field trips are noted on our blog:

<http://pebblepups.blogspot.com>

and through the CSMS website:

<http://www.csms1936.com>

## CSMS Pebble Pup and Earth Science Scholar Ben Elick Presents Paper at Iowa State University

By Steven Wade Veatch

Ben Elick, who has been a member of the CSMS for more than five years, was the presenting author of a paper on repeat photography he coauthored at the 52nd Annual Meeting of the Geological Society of America's North-Central Section. The meeting was held at the Iowa State University Conference Center in the Scheman Building, on the campus of Iowa State University, in Ames, Iowa. Ben has been conducting field investigations and working on this project since the summer of 2017.

Ben presented the paper on Tuesday, April 17. According to Ben, "This is a real project with real value. I am very proud of it." Ben had a time limit of 20 minutes to discuss his image-rich PowerPoint slides. He finished with 45 seconds to spare for questions. One professor shouted from the audience, "Good stuff. This is important work." The room erupted into a round of applause for Ben.

The CSMS provided a travel grant that covered Ben's registration for the conference, hotel accommodations, and travel to and from Ames, Iowa.



Ben Elick stands in front of his conference room prior to his presentation at the Geological Society of America. Photo by S.W. Veatch.

In addition to being a member of the CSMS, Ben maintains a membership in the Society for Mineral Museum Professionals. Ben is also a volunteer with the Western Museum of Mining and Industry where he works on the mineral collections. Ben is also working on a project to conserve the historic photos in the Cripple Creek District Museum's collection.



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## Geology of Leonardo's *Virgin of the Rocks*

By Steven Wade Veatch

Leonardo da Vinci (1452-1519), considered to be one of the greatest painters of all time, used his knowledge of geology to inform his art. Leonardo was also noted for his work in sculpture, anatomy, mathematics, architecture, and engineering during the Italian Renaissance (about 1330 to 1450).

From a geological perspective, Leonardo da Vinci's paintings present a realistic portrayal of nature. In his *Virgin of the Rocks* (1483-1486), on display in the Louvre in Paris, the geological accuracy is striking (Pizzorusso, 1996). The painting's subject is both the Virgin and the rocks. The Virgin sits in front of a grotto or cave. Various aspects of the grotto, according to geologist Ann Pizzorusso (1996), "are rendered with astounding geological accuracy. Leonardo has painted a rich earthscape of rock eroded and sculpted by the active geological forces of wind and water. Most of the rock formations . . . are weathered sandstone, a sedimentary rock." What looks like basalt, an extrusive igneous rock formed by the cooling of lava, appears above Mary's head and at the top right of the picture. Leonardo even painted the columnar joints formed by the cooling of the rocks. Also, just above her head is a precisely painted seam between the sandstone and igneous formations, and a rock joint runs horizontally to the right of her head. Art historians believe that the landscape in this painting is not an actual place, but one conjured up by Leonardo's experience, understanding of geology, and observation (Issacson, 2017).

A second version of the painting, also called the *Virgin of the Rocks* (1495-1508), is exhibited in the National Gallery in London. This painting fails to depict such a faithful rendering of geology as the one in Paris. Despite decades of analysis by scholars, there are doubts that it is an authentic da Vinci painting, but rather a copy of the original painting by another artist.



Leonardo da Vinci's *Virgin of the Rocks* (1483-1486). From his studies of geology, Leonardo learned how the Earth works and improved the realism of his paintings. Location: Louvre, Paris. Oil on panel transferred to canvas. Height: 199 cm (78.3 in). Width: 122 cm (48 in). Image is in the public domain.

Leonardo da Vinci was ahead of his time in his understanding of geology, and he meticulously recorded his observations in notebooks and journals (Bressan, 2014). After his death, his notebooks ended up on the bookshelves in libraries and private collections throughout Europe, while other notebooks disappeared into history (Waggoner, 1996).

Da Vinci wrote in one of his notebooks, the *Codex Leicester*, about the fossils he found as he walked the countryside. Da Vinci recognized that fossils were the remains of once-living organisms and relics of former times and other worlds—traces of a past hidden to other thinkers of the time. Da Vinci also observed that distinct layers of rocks and fossils covered large areas, and the layers were formed at separate times—not in the single biblical flood

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## 2018 CSMS Officers

Sharon Holte, President

Randy Hurley, Vice-President

Open, Secretary

Ann Proctor, Treasurer

Adelaide Bahr, Membership Secretary

Larry Jones, Editor

John Massie, Member-at-Large

Laurann Briding, Member-at-Large

Ernie Hanlon, Past President

## 2018 CSMS Chairpersons

Randy Hurley, Program Coordinator,

Mike Webb, Field Trip Co Coordinator

Ernie Hanlon, Field Trip Co Coordinator

TBD, Science Fair Chair

Frank & Ellie Rosenberg, Librarians

Mark Schultz Social Committee Chair

Ann Proctor, Store Keeper

Michael Kosc, Webmaster

Lisa Kinder, Facebook Keeper

Mike Nelson, Federation Representative

TBD, Federation Representative

## SECRETARY'S SPOT by Sharon Holte

General Meeting Minutes for the  
Colorado Springs Mineralogical Society — 04/19/2018

### Pikes Peak Gem, Mineral and Jewelry Show

The meeting was called to order by our Show Chairman at 6:18 p.m. We had about 18 attendees. Lisa gave an update on her progress with advertising and the venue. She is working on car toppers signs which should give us much more exposure. Some members have been handing out or will hand out show post cards. Any help Lisa can obtain would be greatly appreciated. Lisa has a list of volunteers and where they will distribute post cards. If you can help out, please give her a call and arrange with her the area you can canvas. John Massie is the volunteer coordinator. Please contact him to volunteer. He has several lists of needed help. If you can't commit to a specific time, just let him know and he will find a place for you. We will be having an interactive lab for young people at the show. I know we need more volunteers to man this venue. If you are signed up for a booth, please send Lisa a paragraph about your business. She will post it on the new show website, ([www.PikesPeakGemShow.com](http://www.PikesPeakGemShow.com)). The changing of the show date from the first weekend to the 4<sup>th</sup> weekend in June was discussed and adopted. The new date for 2019 is June 21, 22, and 23. This change gets us away from the Memorial Day festivities.

### CSMS General Assembly Meeting

The meeting was called to order by our President, Sharon Holte at 7:07 p.m. Recitation of the Pledge of Allegiance followed.

Lisa Kinder gave an update on the June show and asked for volunteers. John Massie is in charge of the volunteers this year. Please contact John, one of our members-at-large, for available positions and for signing up.

Randy Hurley, our vice-president, introduced our speaker, Amy Titterington, US Forest Service Geologist. She presented "The Forest Service Permitting Process." Amy gave an excellent and in depth presentation explaining the process for obtaining mining permits in the National forest.

New members and guests were introduced.

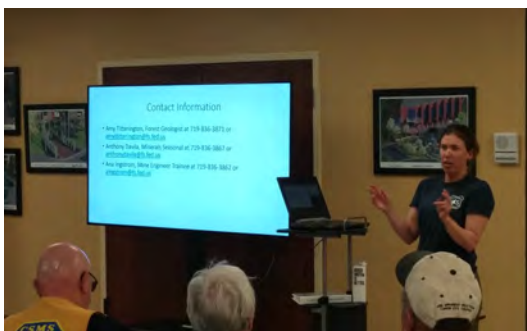
Sharon called for a break for drinks, cookies and goodies. Everyone had a great time talking and eating! There was a great deal of food which we managed to consume!

We had about 65 members at this meeting. Chairs were at a premium. Sharon will address this with Keisha at Mt. Carmel. We gave out seven new mineral specimens from the purchase of mineral specimens at the Denver show wholesale room thanks to Sharon Holte and Bill Kern who went shopping for us.

A motion to approve the minutes for the March General Assembly Meeting as posted in the Pick & Pack was made and passed.

**We still need a Secretary... please!! OH, PLEASE!!!**

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Amy Titterington presents at the April General Assembly. Photo by Randy Hurley

## 2018 Satellite Group Chairpersons

**Crystal, Kevin Witte/Bob Germano**

**Faceting, John Massie/Doreen Schmidt**

**Fossil, Jerry Suchan/Joyce Price**

**Jewelry, Bill Arnson**

**Lapidary, Sharon, Holte**

**Pebble Pups, Steven Veatch/  
Betty Marchant**

## 2018 CSMS Liaisons

**Florissant Fossil Beds  
National Monument, Steven Veatch**

**Western Museum of  
Mining & Industry, Steve Veatch**



CSMS members enjoying the April General Assembly presentation.

Photo by Randy Hurley.

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### Reports by the Officers:

**President** – Sharon Holte: RMFMS Convention in Rapid City, SD, on July 20-22. Mike Nelson is one of our delegates. He can be reached at csrockguy@yahoo.com. One of our new members agreed to be our second delegate. Judy Gogins can be reached at Goginsj@yahoo.com. If you have any concerns you want addressed by Mike or Judy, contact them. We had no delegates to the AFMS Convention in Raleigh, NC.

**Vice President** – Randy Hurley: Covered the speakers for our next several General Assembly Meetings: May will be Dr. John Warn; “Tourmalines, In the Pink”: June is Dr. Carl (Bob) Carnein; Twinned Crystals and Twinning: What Are They and Why Collect Them: July is Dr Steve Veatch.

**Treasurer** – Ann Proctor: no report.

**Secretary** – Sharon Holte: nothing new at this time.

**Membership Secretary** – Adelaide Bahr: presented the five new members

**Editor** – Larry Jones: absent.

**Member-at-Large** – John Massie: nothing additional at this time.

**Member at Large** – Laurann Briding: absent

**Past President** – Ernie Hanlon: Ernie is presenting a trophy and a \$50.00 certificate for the best collected field specimen. Ernie had a problem with an article he wrote for the Pick & Pack. This will be addressed at the next Board meeting he attends.

### Satellite Groups:

**Crystal Group** – Kevin Witte: the presentation for April 26 will be Joe Dorris speaking on Lake George geology.

**Faceting Group** – John Massie: no report

**Field Trip** – Sharon Holte: spoke with Krystal Dorris. They should know soon about the Topaz Mountain and Smoky Hawk mine trips. We need more field trip leaders. Mike Webb sent a new list of possible field trips. Bill Bell promoted the next two field trips: Book Cliffs – April 27, 28, and 29; Garnets – Arroyo Gulch – May 9. Jerry Suchan gave a brief description of topic of the Fossil Group’s meeting. Bill Arnson was absent, therefore no report from the Jewelry Group. Sharon Holte stated the Lapidary Group is by appointment only. Frank and Ellie are off on one of their trips so no reports on the claim or the library. Social Coordinator, Mark Schultz, thanked everyone for all the eatables. Store Keeper, Ann Proctor had nothing new to report. Ernie Hanlon is still working on the Microscope. His contact is supposed to contact him this week and he should have the parts.

Respectfully submitted by Acting Secretary, Sharon Holte



**(CONTINUED FROM PAGE 7)**

## **Cripple Creek District Field Trip**

**Description:** This trip will include a tour of the active Cripple Creek & Victor Gold Mine and the Vindicator Mine historic site. Several stops to observe local geology will be made as we travel together through the mining district. The trip leader is Steven Veatch, a local geologist who has family ties to the gold rush days of Cripple Creek. This trip is limited to 11 participants. You must register and receive a confirmation to go on this field trip. A field guide is provided.

**Date:** Saturday, June 9, 2018

**Time:** 9:30 to 5 pm.

**Cost:** None



**Check in Information:** The mine tour is about 2 hours in length and begins at the Victor Lowell Thomas Museum, 3rd & Victor Ave., Victor CO, promptly at 10 a.m. Please arrive 30 minutes prior to this tour time to check in, sign waivers, and view a safety video. A bus is provided for the mine tour. To go on this field trip, you must register with the trip leader, Steven Veatch, via his email at **steven.veatch@gmail.com** and receive a confirmation email. Bring the confirmation email to board the bus.

Your bus tour will take you into an active mining area and around large equipment; this is not an underground tour. The elevation will vary as will the temperatures, and the driving/walking surfaces will be rocky; please dress for cold, windy weather and wear appropriate walking shoes - only fully enclosed shoes are allowed (no sandals); full-length pants are required - no shorts are allowed. Tours are provided in a small bus; there are a few stops for observation as mining operations allow; walking is on rough ground, but visitors can opt to stay in the bus and do not have to walk around if they are not able. The tours are not wheelchair friendly. Children must be at least 5 years old to go on tours.

The bus tour of the gold mine is scheduled to end around 12 or 12:30 pm. We will meet at the Victor Park for a picnic lunch. From there the group will drive independently to the Vindicator Mine historic site and view and photograph historic mining sites. The trip will continue to several stops at outcrops of geological interest and end in Cripple Creek around 5 pm. There are many places to eat dinner in Cripple Creek and endless diversions for the evening.

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(Issacson, 2017). And centuries before Darwin, Leonardo conjectured through his understanding of rocks, fossils, and the slow processes of erosion and deposition that the world is much older than what church fathers proclaimed (Jones, 2011).

Leonardo da Vinci's observations of fossils found on the tops of mountains wore a path through his thoughts. Since fossils are found in the mountains, the surface of the Earth, Leonardo posited, has changed over time. For example, an ancient sea is now dry land (Jones, 2011). Leonardo concluded that as mountains formed, they lifted marine sediments—carrying fossil-bearing rocks skyward to become mountain peaks. Today, geologists know that tectonic plates and other geological processes form mountains.

In another of his notebooks, the *Codex Arundel*, now housed in the British Library, Leonardo describes graded bedding in layers of sedimentary rocks (Pedretti, 1998). He also had a basic understanding of the superposition of rock strata, where the oldest rocks in a sequence of sedimentary rocks are at the bottom. This concept would not be recognized until the second half of the 17th century when Danish geologist Nicolas Steno, carrying the light of learning, took up the subject in 1669, laying the foundation for modern stratigraphy and geological mapping (Capra, 2013).

Da Vinci never published his theories. He only wrote his observations in his notebooks, which ended up scattered or lost. For more than three hundred years, his notes were not part of the progression of science. It was left for future scientists to rediscover Leonardo's observations on the vastness of geological time, sedimentary layering, and the significance of fossils, and to make these discoveries part of science.

Leonardo da Vinci's endless curiosity and boundless creativity made him the quintessential Renaissance man. He was a keen observer of nature whose interest led him to paint nature not only beautifully, but accurately.

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**Important Information Regarding The Annual  
Pikes Peak Gem, and Mineral, And Jewelry Show**  
**Please take some time to read the following, choose an area that interests you,  
and volunteer to help make this year's show the best one yet.**

**Colorado Springs Mineralogical Society  
Pikes Peak Gem, Mineral, and Jewelry Show  
Show Committee and Responsibilities**

**Show Chairperson – Lisa Kinder**

- Organize and oversee various functions necessary to promote and ensure a successful annual show.
- Monitor progress of all pre-show functions.
- Keep Assistant Show Chairperson apprised of show status.
- Coordinate activities with CSMS Executive Board and obtain their approval.
- Prepare and submit to the Executive Board a preliminary budget to plan and operate the show.
- Set vendor booth prices and determine number of dealer spaces to be sold in order of offset show costs.
- Obtain sponsors for the show.
- Obtain security for the show.
- Engage show venue, sign contract(s), and ensure payment is made or submitted to Treasurer for payments.
- Conduct a post-show critique at which time all committee show persons will present a summary report and recommendation for future shows.
- Submit post show report to Executive Board not later than 45 days after the show.
- Submit profit and loss report to Executive Board not later than 45 days after the show.

**Assistant Show Chairperson – Open**

- Be familiar with duties of and work with Show Chairperson to coordinate a successful show.
- Be prepared to execute duties of Show Chairperson should she/he become absent or unable to perform their duties.

**Treasurer – Club Treasurer**

- CSMS Treasurer will also act as the Treasurer for the Annual Show.
- Provide a change fund in small bills to the Admissions Coordinator, each day of the show.
- Pay all bills properly submitted and approved by committee members. (All bills must be submitted to the Treasurer for payment, no later than 15 days after the closing of the show.)
- Obtain all required sales tax licenses.
- Inform each dealer prior to the opening of the show what taxes and percentage for each taxing authority is to be collected.
- Collect all sales taxes at approximately 4:00 PM on the last day of the show and forward them to the proper agency.
- Work with Show Chairperson to prepare a profit and loss statement, not later than 30 days after the show. Following approval by the Executive Board, it will be read to the general membership during the first general assembly meeting thereafter.
- A copy of the profit and loss statement will be furnished to the Club Secretary.

**Secretary – Club Secretary**

- CSMS Secretary will also act as the Secretary for the Annual Show.
- Keep the Show Chairperson and other committee heads aware of what is contained in incoming correspondence.
- Keep a record of action taken at all show meetings and furnish copies to each member.
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*(Continued on page 15)*



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- Minutes of each meeting and a copy of the profit and loss statement will be placed in the CSMS historical records.

**Vendor Coordinator – Open**

- Select vendors so that a balanced stock of material for lapidary, faceting, jewelry making, fossils, and minerals specimens are available.
- Forward inquiries and contracts to selected vendors to determine their interest in selling materials at the show.
- Contract the number of vendors necessary to meet revenue requirements.
- Ensure that utilities and furnishings are ordered, as requested by vendors.
- Advise vendors of the requirements to collect local sales taxes, with remittances to be made to the CSMS Treasurer, providing vendor does not have local sales tax license/account.

**Exhibits Coordinator – (Bob Landgraf?)**

- Encourage CSMS members, vendors, and other collectors in the community to enter a display case in any category they choose.
- Contact exhibitors and coordinate exhibit requirements (i.e., loaned show cases, electricity, security, etc.)
- Work with Logistics Coordinator to ensure proper location of exhibits, furnishing requirements (tables, chairs, exhibit cases), and electrical requirements.
- Furnish a detailed listing of exhibitors to the Logistics Coordinator and Show Chairperson no later than one week prior to the show set-up date.

**Publicity Coordinator – Lisa Kinder (assistance would be appreciated)**

- Design, print, and distribute marketing materials, i.e., banners, cards, posters, etc.
- Ensure that maximum publicity is given to the show through one or more of the following methods:
  - Advertisement in major and community newspapers
  - Radio programs
  - TV/billboard/transit advertising coverage
  - Promotional listings or articles in newspapers, magazines, and online sources.
  - Other methods deemed appropriate.
- Update attendee contact database from door prize slips collected from past shows.
- Contact previous show attendees via mail and/or email at least four to six weeks prior to show.
- Distribute marketing materials to affiliate clubs at least two months prior to the show.
- Contact local hobby related shops/businesses and distribute marketing materials, where permissible, at least two months prior to the show.
- Place signs on outskirts of city and outside of venue, as permissible.

**Admissions Coordinator – Open**

- Prepare schedules and ensure proper coverage for ticket sales during event.
- Prepare signage stating ticket prices and multi-day discounts.
- Obtain rolls of tickets and carefully record the starting ticket and ending ticket numbers each day, for accurate accounting of daily ticket sales. Tickets of one color shall be used for one day admission and tickets of another color shall be used for two day admission. The days of multiple day admission shall be recorded on the back of the multi-day ticket and initialed by the ticket booth operator.
- Receive change funds from Treasurer. When funds over the change fund accumulate, turn monies over the Treasurer.

**Logistics Coordinator – Open**

- Work with Vendor and Exhibit Coordinators to develop and implement the floor plan/blueprint for vendors, exhibitors, silent auction, Pebble Pups/Earth Science Scholars, membership recruitment and

*(Continued on page 16)*

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other club affiliated areas.

- Oversee, as necessary, club volunteers to mark vendor booth spaces and exhibit spaces one day prior to show. Coordinate with Vendor Coordinator, Exhibit Coordinator, and venue staff to ensure vendor and exhibitor electrical and furnishing requirements and delivery.

**Volunteer Coordinator – John Massie**

- Work with the Chairperson, Logistics, Admissions, and Vendor coordinators to determine the number of volunteers needed.
- Recruit club members to volunteer to assist during the show. Volunteers will be needed for:
  - Marking vendor booth spaces.
  - Directing vendors in and out of building during set up and break down.
  - Directing vendors and exhibitors to their proper location on set-up day.
  - Admissions.
  - Greeting and assisting attendees during the show.
  - Security (observation only, a professional security company will be hired to provide security during set up, show days, and break down).
  - Assisting with set up and break down of club related areas.
- Serve as volunteer contact throughout show.
- Direct volunteers to proper post during set up, show days, and break down.

**Silent Auction Coordinator – (Ron Yamiolkowski?)**

- Obtain and setup microphone system as necessary.
- Place donated items on tables, ensuring bid sheet is provided for each item.
- Close the auction tables at a specified time and collect the successful bid cards and specimens.
- Ensure the identity of the successful bidder before releasing the items.
- Accurately record the sales and surrender the funds to the Treasurer at the end of each show day.

**Kids Area Coordinator – Open**

- Develop and coordinate children's age appropriate activities.
- Contact and coordinate, if available, participation of the Gold Prospectors of Colorado to provide a kid - friendly mining activity.
- Engage the assistance of Pebble Pups, as much as possible, in the execution of the activities.

**Call for CSMS members to enter mineral displays in the  
Pikes Peak Gem, Mineral, and Jewelry Show**

The note below was printed in the April Pick & Pack along with a copy of an application form and a schematic of the club case used in the displays at the show. If you are interested in participating, please contact Bob Landgraf or Lisa Kinder for details.

Hi everyone, our 2018 gem and mineral show is fast approaching. I am soliciting people to exhibit from their collections. We need to create interest from the public in our hobby. The show theme is fluorite, but we encourage exhibits of anything that is related to the earth sciences such as fossils, minerals, meteorites and mining that you would enjoy doing. Please help us put on a great show for 2018!

Thanks,

Bob Landgraf  
Exhibits chairman

## Our Staff...

**Larry Jones—Editor**

We encourage everyone to submit articles, photos, illustrations or observations.

Share your experiences, your new finds, or simply your experience at our last field trip.

Handwrite it, type it, or email it. Format does not matter. All submissions are welcomed. The DEADLINE for items to be included in the next Pick & Pack, is the **20th of the month**

To submit an item:

For hardcopy photos or articles, mail to the address below or bring them to the General Meeting. All hardcopy photos remain the property of the submitter and will be returned. Electronic photos should be submitted at resolutions above 200 dpi in TIF, BMP, JPG, or PIC format. Articles are preferred in Word. Editor will correct font.

E-Mail to:

[csmseditor@hotmail.com](mailto:csmseditor@hotmail.com)

Mail to:

Pick & Pack Editor  
PO Box 2  
Colorado Springs, CO 80901

The PICK&PACK is published ten (10) times per year (no issues in January or August). Unless otherwise marked, materials from this publication may be reprinted. Please give credit to the author and CSMS PICK&PACK.

## CSMS

### T-Shirts, Badges, and Pins

are available for sale. If you celebrated a CSMS anniversary in 2016 or 2017, you are eligible for your one year pin award. Please see Storekeeper, Ann Proctor

## Classifieds



**We ROCK! You Dig?**

We're more than a bunch of rock hounds. We are scientists, enthusiasts, artisans, innovators and craftsmen. We are historians, chemists, teachers and conservationists.

Check out our Junior Earth Science Scholars and Pebble Pups programs.

Other satellite study groups: faceting, crystal, jewelry, micromount, lapidary, and fossil.

For more information  
**WWW.CSMS1936.COM**

COLORADO SPRINGS MINERALOGICAL SOCIETY

55th Annual  
**Pikes Peak Gem, Mineral, & Jewelry Show**  
Featured Mineral: Fluorite

Fri. & Sat., June 1-2, 2018, 10:00-5:00  
Sun., June 3, 2018, 10:00-4:00

Adults \$5.00 / 3-Day Pass \$8.00  
Kids 12 & Under FREE

NORRIS-PENROSE EVENT CENTER  
(Address & map on reverse side)



Fluorite on Quartz, Ana Mine, Barber, Spain  
Photo by Frank Rosenberg, CSMS Member

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**COLORADO SPRINGS, CO 80901-0002**

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**CSMS is an incorporated nonprofit organization with these goals:**

To promote and disseminate knowledge of the earth sciences, especially as they relate to mineralogy, lapidary, and fossils.

To encourage study, collection, and fashioning of minerals.

To accomplish the same through social meetings, lectures, programs, displays, shows, and field trips.

The Pick & Pack is published 10 times each year to assist and promote the above.

**Joining the Colorado Springs Mineralogical Society (CSMS):** Meetings are held the **third (3rd) Thursday of each month**, except January & August, **7:00 p.m.**, at Mt. Carmel Center of Excellence, 530 Communication Circle, Colorado Springs, CO 80905. (Starting (9/21/2017) **Visitors are always welcome.**

CSMS also offers Satellite Group meetings that allow more focused attention in specific areas of our members' interests. Our current Satellite Groups consist of the following: Crystal Study Group, Faceting Group, Fossil Group, Jewelry Group, Lapidary Group, Micromounts Group, and Pebble Pups/Juniors. For details on Satellite Group meetings, check out the calendars on page 2 and the web site.

Yearly dues include 10 issues of the *PICK&PACK*, all field trips (additional fees may be required on some field trips, and members are responsible for all transportation to and from), participation in all Satellite Groups (some groups may request additional fees to help cover resource costs), free admission to the *Western Museum of Mining & Industry*, a year of learning and enjoyment, plus a lifetime of memories.

Individuals—\$30, Family—\$40, Juniors—\$15, Corporate—\$100, \*\*\*\*\*Application is on the web site.

If you are interested in joining CSMS or would like more information, we encourage you to attend our next General Meeting or visit our web site: [www.csms1936.com](http://www.csms1936.com)

**CSMS is a Member of the following organizations:**

American Federation of Mineralogical Societies (AFMS)

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

Rocky Mountain Federation of Mineralogical Societies (RMFMS)

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