



Friends of Mineralogy, Colorado Chapter Newsletter – January/February 2014

January Meeting – Thursday, January 9, 7:30 pm

(Board meeting 6:30-7:30)

Denver Museum of Nature and Science – V.I.P. Room. Enter through the single door Security/Staff entrance to the left of the main entrance. The V.I.P. room is to the left through the cafeteria area.

January Program:

Minerals of the Franklin and Sterling Mines, Sussex County, New Jersey, and Recommendations for Modern Collecting

by **Philip Persson, Denver, CO**

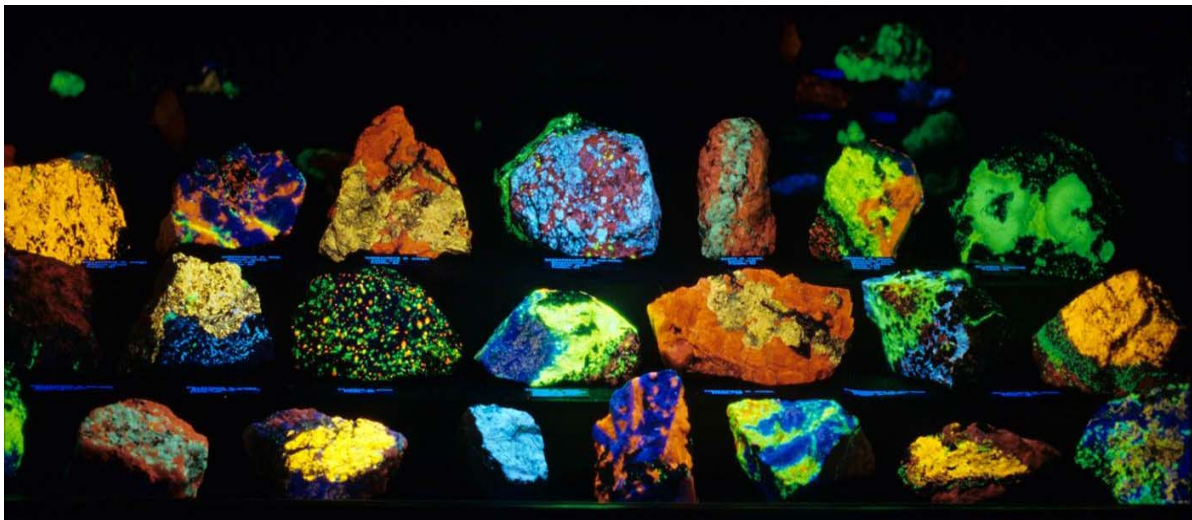
The Franklin and Sterling Zn-Fe-Mn deposits, located in the Proterozoic Highlands of northern New Jersey, are amongst the most mineral-endowed deposits on earth, with 359 species known at present; 71 of these being type localities. The deposits have been dated at ~1080 Ma and are believed to be metamorphosed Sedimentary-Exhalative/Stratiform sulfide deposits, hosted in relatively high-grade marble, and are in a similar genetic class as the Fe-Base Metal deposits at Langban and Garpenburg, Sweden. With a rich and complex history of both mining and mineral collecting spanning nearly 300 years, these deposits come to the mind of almost any mineral collector around the world when the state of New Jersey is mentioned. While both underground mines are now closed and suburban growth has reclaimed much of the former dumps and mine workings, collecting opportunities still exist and exceptional specimens of rare minerals continue to be found thanks to the tireless efforts of the Sterling Hill Mining Museum, Franklin Mineral Museum, and the Franklin-Ogdensburg Mineralogical Society [FOMS]. Arguably the most remarkable feature of minerals from the Franklin-Sterling Hill District is their fluorescence under ultraviolet light. Over 80 minerals from the district are reported to fluoresce, a world record. This presentation will briefly cover the history of the deposits, their mineralogy, the modern museums and their role in continuing the preservation and research of the deposits, and finally, some recommendations for a modern collecting visit to the district.





To the left: Franklinite (black) with zincite.

To the right: Sterling Hill Headframe at the mine, Ogdensburg NJ



Above: Franklin minerals under shortwave ultraviolet



Philip Persson grew up in Northern New Jersey, 10 minutes from the Franklin-Sterling Hill District. After a visit to the Franklin Mineral Museum's fluorescent room as a 10 year old boy scout, he became 'hooked' on mineral collecting and volunteered regularly at both the Franklin Mineral Museum and Sterling Hill Mining Museum. With mentoring from the Sterling Hill Mining Museum Founder and friend Dick Hauck and former Franklin Mineral Museum Curator John Cianciulli, he assembled a large collection of local minerals, organized field trips and meetings for the Franklin-Ogdensburg Mineralogical Society, helped with the two annual mineral shows in the area, and participated in the discovery and documentation of new rare species for the district, including a possible new As-bearing apatite species, genthelvite, pyroxferroite, as well as the first description of johnbaumite from outside the district. After moving to Colorado in 2005 and obtaining a BA in Geology from the University of Colorado, he worked as an exploration geologist in the mining industry, traveling

from Idaho to Northern Sweden in search of new mineral deposits. He is currently back in Denver, helping conduct research on Colorado rare earth element deposits with several CU Boulder faculty and managing to make a living hawking rocks (Persson Rare Minerals) before returning to graduate school in geology next fall.

FMCC 2014 Officers: President, Mark Jacobson, markivanjacobson@gmail.com , 1-337-255-0627
Vice-President, Jim Hurlbut, jfhu@earthlink.com , 303-757-0283
Treasurer, Lou Conti, dlconti@aol.com , 303-797-3205
Secretary, Alan & Norma Keimig, alan.keimig@gmail.com, 303-755-9604
Directors: Bill Chirnside (2013-14), billdozer@mho.com , 303-989-8748
Don Bray (2014-15), don-bray@copper.net , 303-681-3646
Larry Havens (2014-15), lghavens@aol.com , 303-757-6577
Chairpersons: Newsletter, Pete Modreski, pmodreski@usgs.gov, 303-202-4766
Preservation, Jeff Self and Donna Ware, selfawareminerals@gmail.com
Liaison for DMNS, Alan Keimig
Liaison for RMFMS, Jim Hurlbut
Membership/Hospitality - ? (open!)

Dates for upcoming FM Colorado Chapter meetings:

January 9
March 13
May 8
May 10 – Silent Auction, Clements Community Center
September 4, 11, or 18; to be determined
November 13

Meetings are normally held at 7:30 p.m. on the 2nd Thursday of alternative months, at the VIP Room in the Denver Museum of Nature and Science. Any visitors are *always* welcome at our meetings!

FMCC dues for 2014 are \$13.00 (cheap!), which includes membership in national Friends of Mineralogy. Please send your dues payment to: FM-Colorado Chapter, P.O. Box 5276, Golden CO, 80401-5276; or pay in person at the meeting.

Jeff Self & Donna Ware on “Colorado Matters”!

Our members, Jeff Self & Donna Ware, were featured in an interview on the “Colorado Matters” program on Colorado Public Radio, which aired on January 2. The recorded interview with Ryan Warner can be listened to online via the CPR website,

<http://www.cpr.org/news/story/getting-dirt-colorado%E2%80%99s-precious-stones>

along with a story and photos about them, “Getting the Dirt on Colorado’s Precious Stones”, by Shanna Lewis. Jeff and Donna dig a great job telling about what it’s like prospecting and mining for minerals and gems!

2014 FMCC Silent Auction, May 10, 11 a.m. – 4 p.m.

Our 2014 silent auction will take place on Saturday, May 10, at the Clements Community Center, 1580 Yarrow St., Lakewood, CO (a block west and a block north of the intersection of Colfax and Wadsworth). Please put it on your calendar! The auction is our organization’s main annual fund-raising event.

Planned Symposium, Mines and Minerals of the San Juan Mountains, September 2014

The Friends of the CSM Geology Museum, together with our Chapter, are planning to organize a symposium on the mines and minerals of the San Juans, to be held in Ouray and Silverton, probably on Sept. 19-21 (the weekend following the Denver Show). The symposium would include lecture presentations, historical visits, and mineral/geology field trips. More information will be forthcoming! If you are interested in helping to organize the symposium, please contact Bruce Geller, CSM Museum, bgeller@csm.edu

Previous Colorado Chapter meeting:

At our November 14 meeting, Dr. Markus Raschke gave an excellent talk on “The Alkaline Granite Minerals of the Golden Horn Batholith, Washington Pass, Northern Cascade Mountains, Washington”. We conducted our annual election, of officers and directors for 2014; Mark Jacobson, Jim Hurlbut, Lou Conti, and Alan & Norma Keimig were confirmed by acclamation as president, vice-president, treasurer, and co-secretaries, respectively. Bill Chirnside remains in office for the remaining year of his 2013-14 term as director, and Don Bray and Larry Havens were re-elected to serve new two-year terms as directors, 2014-15. Pete Modreski is taking over as newsletter editor, with many thanks to Bill Hutchinson for his past years of service at this job, and Jeff Self and Donna Ware will continue as chairs of the Preservation Committee and Oral Mining History Project.

Denver Gem & Mineral Show Mini Report January 2014

Planning for the Denver Gem & Mineral Show goes on all year long. The 2014 Denver Show will take place September 12-14. The theme is Agate, a theme that some have zealously desired for some time. So now is your big chance to bring out all that beautiful agate. Agate occurs in so many different colors, patterns, and types with a myriad of names to describe it. Put the Denver Show on your schedule for next September. If you are an agate collector, study your collection. Maybe you will want to put together an exhibit or help your club put together an exhibit. There will be no species competition of agates, but there will be competition as lapidary items of agate.

As everyone knows, the show is sponsored by the Greater Denver Area Gem & Mineral Council, which consists of the one paleontology and seven gem & mineral clubs in the area. The Show Committee is composed of volunteer members from these clubs and is the group which plans and

operates the show. The committee is about 50 members strong but as with any volunteer group there is constant change in the membership. The committee continually needs to bring on new members to learn about the show and assume responsibilities of some of the persons who drop off for various reasons, including age. Many of us "old timers" are no longer "spring chickens". The show is the premier event for rock, mineral, gem and fossil hobbyists in the Denver area. To keep the show such a wonderful event, your help is needed. So when you are asked to volunteer for the show, please say "yes, I would be glad to". Right now a person is needed to be in charge of Take Down of the show on Sunday evening, and someone to be in charge of Set Up on Wednesday. All of the jobs have operation procedures to explain the responsibilities. Others on the committee will help you to get started in working for the show. Any club member is always welcome to attend a committee meeting to find out what it is all about. A new member may be "At Large" for awhile before deciding on an area of responsibility to assume or assist with. Committee meetings are the first Tuesday of each month, except February, July and December. The meetings commence at 7:30 p.m. at the Denver Museum of Nature & Science. Talk to another member of your club who is already on the committee and come with them to a meeting. We will be glad to see you there.

Respectfully submitted, Judy Knoshaug, Show Secretary

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Following in this newsletter (see next page), we are pleased to feature an historical article prepared by Jack Murphy and Peter Laux, about R.C. Hills (1848-1923), geologist, mining engineer, active member of the Colorado Scientific Society, discoverer of the tellurium mineral emmonsite, and Honorary Curator of Geology at the Colorado Museum of Natural History (later to become the Denver Museum of Nature and Science).



Richard C. Hills circa 1910. Photograph F-30862 courtesy of the Western History department, Denver Public Library. R. C. Hills document file.

Richard C. Hills (1848-1923)

By Jack A. Murphy and Peter Laux

Although Richard Charles Hills lacked a university education, he became a noted geologist and mining engineer by learning on the job and, literally, on the ground. Fellow miners were his teachers and many mines were his laboratory. Born in Ewhurst, Surrey, England on February 5, 1848, young Hills came to the United States in 1865. For more than ten years he worked his way around the American West—California in 1867, Nevada in 1869, Idaho in 1870, and in 1877 to the new state of Colorado, where he finally settled down. As his reputation grew, he consulted for numerous mining companies around the western US and Mexico.

In about 1883 Hills began a long association with John C. Osgood as one of the founders of Colorado Fuel and Iron Company, and he became their mining expert. The Company archives contain some 35 (possibly more than 50) of his technical reports on company mines, evaluations of coal deposits and ore bodies, and descriptions of prospects for coal, iron, copper, manganese and titanium sands. It is said that he laid out practically all of the CF&I mines. During his time with CF&I he would occasionally do field projects for the US Geological Survey (USGS.) In 1885 he discovered a new mineral in the Tombstone, Arizona telluride ores, naming it Emmonsite after Samuel F. Emmons, the eminent USGS geologist who had served as the first president of the newly formed Colorado Scientific Society in 1883.

Hills was not a founding member of the Colorado Scientific Society on December 8, 1882, but he became active in the Society early on. He served twice as president, in 1888 and 1890, and sometime before 1905 was elected an Honorary Member. In the early 1890s, Hills donated to the Society his share of an extensive collection of plant fossils then on display at Columbia University. The collection was jointly owned by their Professor John C. Newberry. After Newberry's death, the collection could not be separated and it was sold to the University, enriching the Society's coffers for more acquisitions. Interestingly, two fossil plant species have been named after R. C. Hills, *Cyperacites hillsii* and *Polystichum hillsianum*.

At about the time of Hills' presidencies, the Colorado Scientific Society received one of its most famous mineral specimens. John A. Porter, president of Smuggler-Union Consolidated Mining and Milling Company, donated a large piece of extremely high-grade gold in quartz from a vein in the Smuggler-Union mine near Telluride. The 17-pound specimen was cut and polished for display. It won medals of recognition at the 1893 Columbian World Exposition in Chicago and the Paris Exposition of 1900. The gold specimen and medals are on permanent display in the Minerals Hall at Denver Museum of Nature & Science.

R. C. Hills was very active in securing donations and support for the Colorado Scientific Society. The Society obtained most of its specimens by donation from members and friends, but some items were purchased. One significant purchase was the Costilla meteorite, which was found on the north slope of Costilla Peak just 6 miles south of the Colorado-New Mexico state line. In 1894, Professor Henry A. Ward bought a small piece of the 78-pound meteorite for his Natural Science Establishment in Rochester, NY, and polished the face of the remainder for the Society.

A prolific writer, Hills published many articles with the USGS, the American Journal of Science, the Colorado Scientific Society, and leading mining periodicals. His bibliography is attached. In 1901 he married Louise Bruce of Denver, but no children came from the union. In about 1907, Hills began employment in Denver with Victor American Fuel Company, and remained with them the rest of his life.

In 1911 Hills was appointed Honorary Curator of Geology at the Colorado Museum of Natural History, now the Denver Museum of Nature & Science. One of his first actions was to sell his extensive mineral collection to the Museum. He was responsible for procuring contributions of much geological material to the Museum, including over 2000 feet of diamond drill core from the La Plata Mountains in

southwestern Colorado. In 1920, he donated a large portion of his private library to the Museum. And importantly, in 1923, Hills arranged for the Museum to be the repository for the Colorado Scientific Society's collections of 23 meteorites and numerous fine rock and mineral specimens, mainly from the Leadville Mining District. In 1977, the Society made permanent its donation of meteorites, rocks and minerals, including the Porter Smuggler-Union gold specimen, to the Museum. In similar fashion, the Society's library was first loaned then donated to Denver Public Library. Other geological materials had been loaned to the Colorado State Bureau of Mines, which now are owned by Colorado School of Mines Museum.

In addition to substantially enlarging the Museum's early meteorite and geology collections, Hills contributed enormously with his knack for organizing the geology and mineral exhibits, and making them understandable for all. Exhibits prepared under his direction were immensely popular. There were many special exhibits, and he included educational as well as descriptive material with most of them. One example often given is using metal percentages and assay values rather than the chemical formula of an ore mineral, making it more familiar to the miner, prospector and common folk.

Richard Charles Hills died of heart failure on August 14, 1923, and was buried in Fairmount Cemetery in Denver. Hills was a Fellow in the Geological Society of London and the Geological Society of America, and an Honorary Member of the Colorado Scientific Society. His widow donated the remainder of his library to the Museum. After she died in 1928, there were no close relatives of R. C. Hills in the United States.

R. C. Hills information sources:

Denver Museum of Nature & Science, Annual Reports for 1911, 1912, 1914, 1915, 1916, 1918, 1920, 1921, 1922, 1923, 1950; undated biographical archives.

Denver Times, August 15, 1923, obituary.

Eckel, Edwin B. et al, 1993. History of the Colorado Scientific Society, Revised Edition. Colorado Scientific Society, Denver.

Rocky Mountain News, August 15, 1923, obituary

Who's Who in America, Vol. 12, 1922-1923. A. N. Marquis & Company, Chicago.

List of Publications by R. C. Hills, From the Colorado Geological Survey bibliography of geological articles, and the DMNS archives file on R. C. Hills:

Hills, R. C. 1880. Note on the occurrence of fossils in the Triassic and Jurassic beds near San Miguel in Colorado: *Am. J. Sci.*, Vol. 19, No. 114, p. 490.

- 1881. Remarks on the classification of the Huerfano Eocene: *Colo. Sci. Soc., Proc.*, Vol. 4, p. 7-9.

- 1882. Jura-Trias of Southwestern Colorado: *Am. J. Sci.*, Ser. 3, Vol. 23, p. 243-244.

- 1882. Ore deposits of southwestern Colorado: *Am. J. Sci.*, Vol. 23, p. 243-244.

- 1883. Extinct glaciers on the San Juan Mountains: *Colo. Sci. Soc., Proc.*, Vol. 1, p. 39-46.

- 1883. Ore deposits of Summit district, Rio Grande County [abstr.]: *Eng. Min. J.*, Vol. 35, p. 332-334.

- 1883. Extinct glaciers of the San Juan Mountains: *Am. J. Sci.*, Ser. 3, Vol. 27, p. 391-396. (Reprint from *Colo. Sci. Soc. Proc.*, No. 1, p. 39-46, 1883)

- 1883. Ore deposits of Summit district, Rio Grande County: *Colo. Sci. Soc., Proc.*, Vol. 1, p. 20-36.

- 1884. Kaolinite from Red Mountain: *Am. J. Sci.*, Ser. 3, Vol. 27, p. 472, illus.

- 1886. Notes on the recent discovery of natural gas in Pitkin County. *Colo. Sci. Soc., Proc.*, Vol. 2, Part 2, p. 106-107.

- 1886. Remarks on the occurrence of coal in the Carboniferous formation at Aspen and Glenwood Springs: Colo. Sci. Soc., Proc., Vol. 2, p. 25-26.
- 1886. Circulation of water through the strata of the upper Cretaceous coal measures of Gunnison County: Colo. Sci. Soc., Proc., Vol. 2, Part 2, P. 127-133.
- 1888. Preliminary Notes on the Eruptions of the Spanish Peaks Region: Colo. Sci. Soc., Proc., Vol. 3, p. 24-34.
- 1889. Etched beryls from Mount Antero: Colo. Sci. Soc., Proc., Vol. 3, p. 191-192, illus.
- 1889. The field for original work on the Rocky. Mountains [address]: Colo. Sci. Soc., Proc., Vol. 3, p. 168-184.
- 1889. The recently discovered Tertiary beds of the Huerfano River basin: Colo. Sci. Soc., Proc., Vol. 3, p. 148-164, illus.
- 1890. Additional notes on the Huerfano beds: Colo. Sci. Soc., Proc., Vol. 3, p. 217-223.
- 1890. Additional notes on the eruptions of the Spanish Peaks region: Colo. Sci. Soc., Proc., Vol. 3, p. 224-227.
- 1891. Post-Laramie beds of Middle Park: Colo. Sci. Soc., Proc., Vol. 4, p. 213-214.
- 1891. Types of past eruptions in the Rocky Mountains: Colo. Sci. Soc., Proc., Vol. 4, p. 14-32.
- 1891. Orographic and structural features of Rocky Mountain geology: Colo. Sci. Soc., Proc., Vol. 3, p. 362-458, illus.
- 1891. Denver artesian basin: Colo. Sci. Soc., Proc., Vol. 4, p. 6. (Discussion of paper read by P. H. van Diest "On the Artesian wells of Denver")
- 1891. Fulgurite from the Spanish Peak: Colo. Sci. Soc., Proc., Vol. 3, p. 280-287.
- 1891. Remarks on the Classification of the Huerfano Eocene: Colo. Sci. Soc., Proc., Vol. 4, p. 7-9.
- 1893. Coal fields of Colorado: U. S. Geol. Surv., Miner. Resour. (1892), p. 319-365.
- 1899. Coal fields of Colorado: U. S. Geol. Surv., Geol. Atlas Folio Ser., No. 58.
- 1899. Elmore folio: U. S. Geol. Surv., Geol. Atlas Folio Ser., No. 58, 5 p., maps.
- 1900. Walsenburg folio: U. S. Geol. Surv., Geol. Atlas Folio Ser., No. 68, 6 p., maps.
- 1901. Spanish Peaks folio: U. S. Geol. Surv., Geol. Atlas Folio Ser., No. 71, 7 p., maps.
- 1902. Eocene and earlier beds of the Huerfano basin and their relation to the Cretaceous. Science (AAAS), Vol. 15, p. 417.
- 1903. The Trinidad or Elmore coal region: Mines Miner., No. 23, p. 254.
- 1904. The Walsenburg coal district: Mines Miner., No. 24, p. 339-341, illus.
- 1917. Notes on rare mineral occurrences: Colo. Sci. Soc., Proc., Vol. 11, p. 203-208.

Calendar of Coming Events

Sat., Jan. 11, at the monthly meeting of the Lake George Gem & Mineral Club, Pete Modreski will give a talk on **Pegmatites**. All are welcome; meeting is at 10 a.m. at the Lake George Community Center, north side of US Highway 24 on the east side of town, sharing a building with the County Highway shops.

Also **Sat., Jan. 11, Family Exploration Day - GEOLOGY!** at the Western Museum of Mining and Industry, Colorado Springs. “Learn about Colorado’s mineral and mining heritage, identify common or your own minerals-in-hand specimens, understand processes important to the formation mineral deposits, and identify modern methods of mineral exploration and mine development. Among the activities, learn about ice age fossils of mammoths and pollen from a Florissant Fossil Beds Park Ranger, take part in some hands-on mineral identification with the Olympus Mineral Laser Gun, and discover how geologic processes have and continue to shape the Pikes Peak Region!” Regular museum admission applies; see <http://wmmi.org/> .

Sun., Jan. 12, 2 to 4 p.m., The **Rocky Mountain Micromineral Association** meets on the 2nd Sunday of each month, in the meeting room across the hall from the Colorado School of Mines Geology Museum. The topic of their Jan. 12 meeting will be “**Microminerals from Colorado Type Localities**”, led by Richard Parsons. All interested persons are always welcome to attend; there is usually a presentation, and members bring binocular microscopes and examine, give away, and exchange specimens. See their website: <http://rocky-mountain-micromineral-association.com/>

Mon., Jan. 13, 11:30 a.m., at the weekly meeting of the **Denver Mining Club**, Dr. Bruce Geller, Director, Colorado School of Mines Geology Museum, will give, “**An Update on Telluride Research, 20 Years After**” (Bruce’s Ph.D. Dissertation at CU was on telluride minerals in Colorado ore deposits.) The meeting is at the Golden Corral Buffet & Grill, 3677 S. Santa Fe Dr., Sheridan, CO (first exit off Santa Fe Dr., south of Hampden), 11:30 a.m. – 1:00 p.m.; all visitors are always welcome; purchase of a buffet lunch is required

Also **Mon., Jan. 13**, 6:30-8:00 p.m., a **Special Café Scientifique!** “Café Sci.” is a monthly informal lecture + discussion program on science topics, free and open to the public. Normally held at two other locations (see <http://cafescicolorado.org/>), this special program will be at **Lannie’s Clocktower Caberet**, the club in the lower level of the famous D&F Tower, located at 1601 Arapahoe St. in downtown Denver. The talk will be: “**Waste to Value – How Environmental Engineering Is Reinventing Itself**”, by Dr. Zhiyong 'Jason' Ren of the Department of Environmental Engineering at CU Boulder. An excerpt: “Most people won’t notice or care what happens after you flush the toilet, unless something goes wrong, like during the 1000-year flood this past summer in Boulder. The water utilization cycle has been largely neglected by the public. However, now wastewater is increasingly recognized for its value as a resource, providing opportunities for recovery of water, energy, nutrients, and valuable materials.” All are welcome to attend; see the website for more details. Doors will open at 5:30.

Tues., Jan. 14, 7:00 p.m., Annual Emmons Lecture sponsored by the Colorado Scientific Society: **Correcting Greenland Ice Sheet Mass Balance for Refreezing of Infiltrated Surface Melt: the Forgotten Grand Problem**, by Tad Pfeffer, INSTAAR and CU-Boulder. At the American Mountaineering Center Auditorium, 710 10th St., Golden CO: All are welcome. See <http://www.coloscisoc.org/> for more info.

Fri., Jan. 17, 7:30 p.m., at the monthly meeting of the **Littleton Gem & Mineral Club**, the speaker will be Mark Jacobson, on "**Mount Antero---- Minerals, History and Geology**". At Columbine Hills Church, 9700 Old Coal Mine Ave. Littleton (just east of Coal Mine & Kipling); all are welcome, of course.

Sat., Jan. 18, 1:00-4:00 p.m., the winter meeting of the **Rocky Mountain Chapter of the Fluorescent Mineral Society** will be held at the Colorado School of Mines Geology Museum. A business meeting will begin at 1:00 p.m., followed by a presentation on fluorescent minerals by Pete Modreski. This will be followed by a "behind the scenes" tour of the School of Mines Geology Museum with Ed Raines. All interested persons are welcome to attend.

Sun., Jan. 19, 12 noon, the monthly meeting of the **Florissant Scientific Society**; Craig Bannister will give a talk on **Archaeology of Black Cave in Douglas County, CO**. Held at the Dinosaur Ridge Visitors Center, 16831 W. Alameda Parkway, Morrison (upstairs in the "barn" building). Bring goodies to share for lunch. For more info contact Beth Simmons, cloverknoll@comcast.net .

Tues., Jan. 21, 2:00-3:00 p.m., USGS Rocky Mountain Seminar, **Zircons from Hell? SIMS and Atom Probe Tomography of Hadean Zircons**, by John Valley, Univ. of Wisconsin. All interested persons are welcome to come to these biweekly (usually) lectures, held in the Building 25 auditorium, Denver Federal Center, Lakewood. Enter the Federal Center via the main gate (Gate 1) on Kipling St., and go north to the large parking lot (with overhead solar photovoltaic panels) east of Building 25; enter Bldg. 25 via the Security station at entrance E-14, near the center of the building. The next talks will be:

Tues., Feb. 4, **Volcanic Landslides: The Inside Story**, by Carol Finn, USGS, Denver.

Tues., Feb. 18, **How to Date Sedimentary Rocks**, by John Aleinikoff, USGS, Denver.

Please Note, the seminars are normally always held at 10:30-11:30 a.m., Tuesdays. Just the Jan. 21 seminar will take place at a different time, 2:00 p.m. that day. Please email me (pmodreski@usgs.gov) for a complete list of all the seminars scheduled through May 28.

Thurs., Jan. 23, 7:00 p.m., "The wonderful new **Fort Collins Museum of Discovery** is hosting a series of presentations this winter and spring entitled "**Night With A Geographer**". **Dr. Joseph Kerski** is thrilled to be the first one in the series. Rest assured that there will be MUCH in the way of discussion about earth science, geotechnologies, natural hazards, population change, land use, human-environment interaction, geography, citizen science, fieldwork, and more. Free! And LOTS of geo-swig to be given away – including books and GOOD STUFF!"

Fort Collins Museum of Discovery, 408 Mason Ct., Fort Collins CO 80524 .

Find out more, here: <http://www.youtube.com/watch?v=2g38SwXzQw0> .

The Museum website is <http://www.fcmod.org/> but at this time, there does not yet appear to be anything posted about this program. Joseph Kerski (works for ESRI, formerly with the USGS) is an extraordinary presenter about anything connected with Geography; his particular specialty is educational applications of GIS (Geographic Information Systems). If you've not heard Joseph give a presentation before—you are in for a treat and a great educational experience, if you attend this!

Science Fair judges are solicited to be judges at several **Denver Public Schools science fairs**. Help is needed in the mornings, approx. 8:45 a.m. – noon. Coming science fairs will be Jan. 17 at Bryant Webster K-8 school, and Saturday, Jan. 25 will be the DPS District Science Fair, held at the Denver Zoo. If you are willing to help at any of these, please contact Debbie Turner, CRI, Debbie_turner@dpsk12.org or call 720-424-2300. Ask your friends and colleagues to help too!

Judges are also sought for the **Colorado Regional Science Fair (Boulder area)** to be held at the University of Colorado on Thursday, Feb. 27, 2014; 7:45 to 3 p.m. If interested in volunteering, please contact Grace Ellen DeBacker, Judge Coordinator, Corden Pharma Colorado Regional Science Fair; ellen.debacker@bvsd.org ; 720-561-6813.

More Science Fairs: Prospective judges (and other volunteers also) are also encouraged to apply to help at the **Denver Metro Regional Science & Engineering Fair, Wednesday, March 5, 2014**, held at the Denver Museum of Nature and Science, and the **Colorado State Science & Engineering Fair, held in Fort Collins, Thursday, April 10, 2014**. To volunteer, see <http://ahec.ucdenver.edu/sciencefair/> for the Metro Regional fair, and <http://www.csef.colostate.edu/> for the State fair. For either, click on Judges Info.

Looking ahead to coming months:

Feb. 1-15, Arizona Mineral & Fossil Show (Hotel Tucson City Center, formerly Inn Suites)

Feb. 13-16, Tucson Gem and Mineral Show (Tucson Convention Center)

Feb. 21-23, Denver Gem and Mineral Guild Show (Jefferson County Fair Grounds)

Mar. 13, FM Colorado Chapter March Meeting (Denver Museum of Nature & Science)

Mar. 28-30, Fort Collins Gem and Mineral Show (Larimer County Fair Grounds, Loveland)

Apr 18-20, Colorado Mineral & Fossil Show -Spring (Ramada Plaza-Denver Central)

May 8, FM Colorado Chapter May Meeting (Denver Museum of Nature & Science)

May 10, FM Colorado Chapter, Silent Auction (Clements Community Center, Lakewood)

June 6-8, Pikes Peak Gem and Mineral Show (Western Museum of Mining & Industry)

Aug. 7-10, Contin-Tail Rock Show, Buena Vista Rodeo Grounds

Aug. 15-17, Lake George Gem and Mineral Show, Lake George, CO

Sep. 7-14, Colorado Mineral & Fossil Show, Ramada Plaza Hotel (formerly Holiday Inn), Denver

Sep. 12-14, Denver Gem and Mineral Show, Denver Mart (formerly the Denver Merchandise Mart)

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mineralogy
colorado chapter



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