



Colorado Scientific Society

The objective of the Society is to promote the knowledge and understanding of Earth science, and its application to human needs

December Meeting, Wednesday, Dec. 21, 2016

**Arbor House, in Maple Grove Park,
14600 W. 32nd Ave., Golden (Applewood area)**

Potluck Dinner, Annual Meeting, and President's Address

Happy Hour will begin at 5:30 p.m., with dinner at 6:00 p.m. If you choose to skip dinner, the business meeting and lecture will begin at 7:00 p.m. We hope to see you there!

South Park: Recent investigations by the Colorado Geological Survey carry on a legacy of geologic mapping in a fascinating setting

Peter Barkmann, Colorado Geological Survey

In addition to being one of Colorado's scenic and historic gems, South Park is an amazing place to study geology. This geologic wonder has captured the imagination of geologists for over a century as many bright minds have worked to unravel its many elusive secrets; so much more remains to be solved. Strata and structural features record a long, complex progression of tectonic events through an ever-changing geographic setting. The structural basin preserves marine and non-marine sediments deposited in many of Colorado's more interesting geologic phases, including the late Paleozoic Ancestral Rocky Mountains orogeny, Cretaceous Interior Seaway foreland basin event, Laramide orogeny, Paleogene and Neogene volcanic flare-up, and the recent Rio Grande rift extensional event. Topping off all of that are spectacular Quaternary glacial and periglacial features within, and surrounding, the basin.



Recent geologic mapping at a 1:24,000 scale by the Colorado Geological Survey and United States Geological Survey bring to light complexities in the basin's stratigraphic record and structural fabric. A legacy of

subsurface data from decades of oil and gas exploration add three-dimensional insight of the deeper structural patterns. Strata preserved in the basin include Pennsylvanian-Permian synorogenic sediments deposited in the Central Colorado Trough as the Ancestral Rocky Mountains evolved. This nearly 10,000 foot thick sequence includes ductile and soluble evaporitic facies that certainly affected later deformation even up to the Holocene. The post-ancestral Rocky Mountain landscape was beveled and subsequently blanketed by Jurassic and Cretaceous sediments, including the marine strata of the Interior Seaway. Deformation during the Late Cretaceous to Eocene Laramide orogeny compressed these strata into a complex series of folds combined with reverse and thrust faults. Deposition of thousands of feet of synorogenic fluvial sediments accompanied this deformation and record un-roofing of differing highlands.

The Hartsel Quadrangle is the most recent quadrangle to be mapped by the CGS as part of the National Cooperative Mapping Program STATEMAP effort. Field work completed during the summer and fall of 2016 has added great detail to the bedrock and Quaternary geologic story of this critical area. At the time of this abstract, data are still being compiled and analyzed, but the information gathered so far shed new light on stratigraphic and structural relationships from both the Ancestral Rocky Mountain Laramide tectonic events.

Not only does the quadrangle sit at the geographic center of the basin, it is a nexus of major structural boundaries that define distinct blocks. One block is the prominent northwest-trending Precambrian basement-cored Hartsel uplift, while a second, Paleozoic sediment-cored block, meets it just to the north across a major fault. Mapping has help delineate the edge of the Central Colorado Trough along the Hartsel block with evidence of fault boundaries, on-lap relationships, and proximal fan facies. The quadrangle also straddles a complex belt of deformation characterized by primary low angle west-directed thrust faults. This belt includes the Hartsel anticline, which appears to be flanked by east-directed back-thrust faults. A series of northeast-trending compartment faults segment this belt. Stratigraphic relationships within the synorogenic South Park Formation point two a progression of early deformation and un-roofing to the west followed by subsequent deformation and un-roofing to the east. The later west-directed thrust faults appear to converge upon the previously uplifted Hartsel block, suggesting a constriction of the compressional deformation against the rigid earlier uplift. The earlier uplift may have acted as a buttress complicating the deformation patterns.

Detailed mapping of the synorogenic South Park Formation reveals changes in source areas from a volcanic highland to the north-northwest through to a basement-cored highland to the west. The Link Springs Tuff Member, previously limited to a belt further to the north, now appears to continue to the southern extent of the South Park Formation. This distinctive unit forms a marker bed useful for defining subtle structures. Mapping has also delineated a new member, informally called the Santa Maria member, which includes nodular calcareous red-beds and distinct beds of conglomerate containing rip-up clasts of algal limestone. Aspects of this unit beg for better definition.

The quadrangle also includes a complex Tertiary (?) mafic intrusion that forms a layered sill within the Fox Hills Sandstone fed by a network of dikes. Outliers of Eocene (?) andesite and Wall Mountain Tuff dot the southern edge of the area. Quaternary features include abandoned Late Pleistocene river valleys, fossil solifluction features, and possible relict ice wedges. There really is something for everyone in South Park!



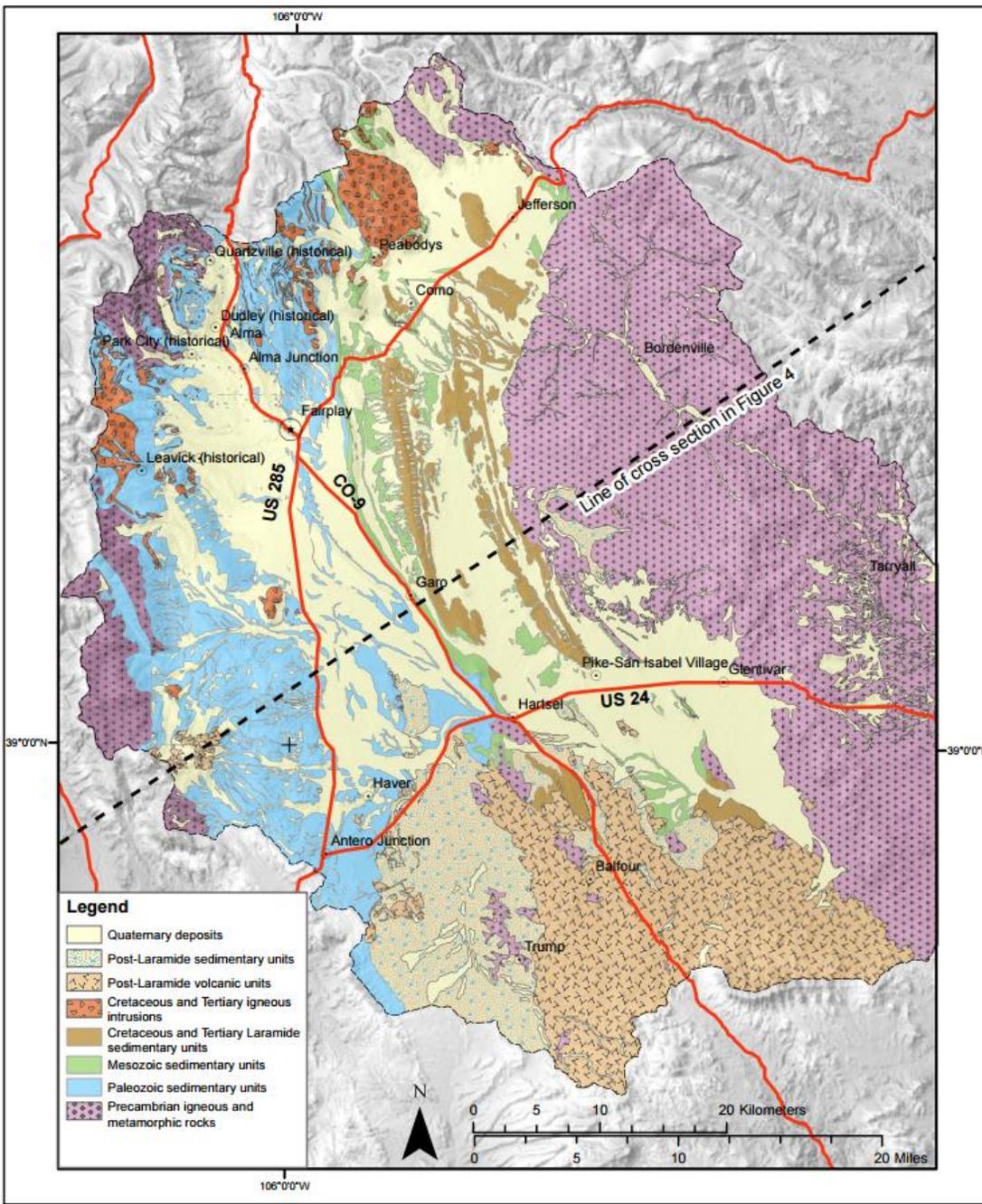
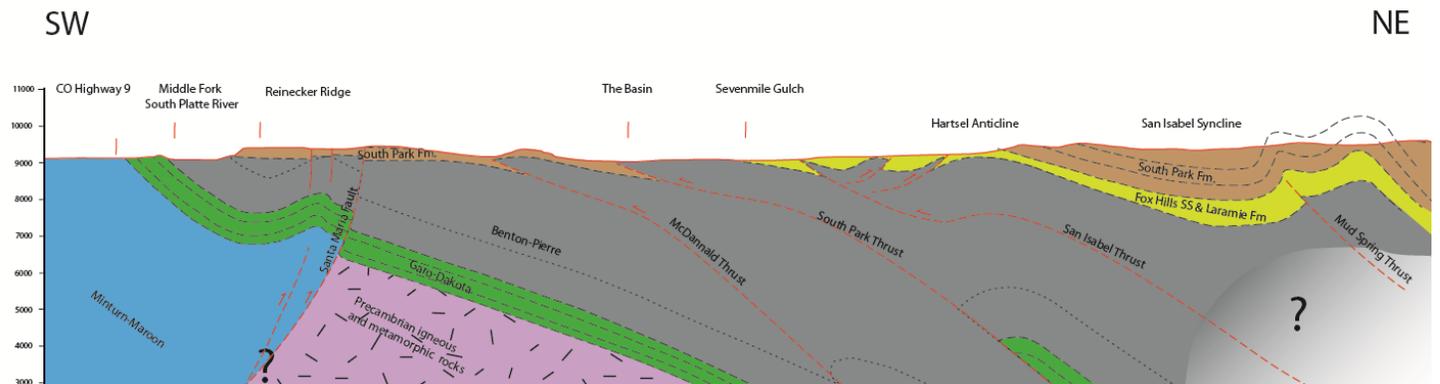


Figure 3, from South Park, Colorado: The interplay of tectonics and sedimentation creates one of Colorado's crown jewels, by Peter E. Barkmann, Edward J. Sterne, Marieke Dechesne, and Karen J. Houck; pp. 151-190 in Keller, S.M., and Morgan, M.L., eds., *Unfolding the Geology of the West: Geological Society of America Field Guide 44* (2016).



President’s message, from Peter Barkmann, December, 2016:

Well folks, so concludes my year the helm of Colorado Scientific Society. I can’t tell you how much I admire and appreciate the fine people who are so passionate about the society that they devote time and effort to keep it going as a respected institution. Lisa, Pete, and Don prove to be dedicated stalwarts through the years managing necessary record keeping, publicity and the all-important finances of the group. Celia, Linda, Melissa, and Bruce bring enthusiasm and welcome input to the council guiding us through the many issues and concerns that pop up from month-to-month and have been tremendous help in organizing the monthly meetings. Chris, along with Barb, have worked wonders with the new website. Thom did a splendid job as Program Chair lining up a series of invigorating and inspiring talks through the year. Paul, with his wonderful sense of humor, shepherded another generous round of Memorial Fund grants. Our one field trip of the year, led by Christine Siddoway, took a hearty group out to see the intriguing Neoproterozoic sandstone dikes in the southern Front Range.

We reached out to students through our Memorial Fund grant program, where we awarded \$11,000 to 12 highly qualified individuals. And then the Society hosted a well-attended and inspiring Student Paper night. The Society continues to be recognized as a dedicated support for the next generation of earth scientists. We should be proud of that. In September we had a very strong presence at the GSA annual meeting, back in Denver on its three year cycle. In addition to having a very visible and well visited booth, our topical session on new concepts and discoveries in Colorado geology drew a good crowd even though it was at the tail end of the conference.

What was left undone? I wish we could have had more field trips. What earth scientist does not thrive on camaraderie in the field! We could have been more successful in securing corporate support for functions. I also think we could do more to reach out to bring in new members, particularly from the universities. Ah, more to do!



Now I leave the Society in great hands with Marith Reheis who has already started a stellar lineup of talks for next year. Marith comes to us with energy and enthusiasm that will propel the Society into another great year. I look forward to hearing more climate science discussion. This is a topic we should not shy away from since it will prove to be of great interest as our nation decides policy and direction. We all need to become more informed as we listen, observe, and help inform those without science backgrounds who may look to us for advice.

--- Peter Barkmann, December 2016

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To our CSS members who receive the newsletter by U.S. mail—in the interest of getting you the information about our meeting and potluck dinner far enough in advance of the meeting, we have sent you this “Part One” of our newsletter now, pp. 1-4. The remainder will follow as a supplement in a few more days. For questions about the potluck dinner, please contact Linda Barton Cronoble, lbarton1611@gmail.com, 720-338-1237.

Colorado Scientific Society financial statement 2016

SUMMARY: The budget table below shows shortfall for 2016 of about \$600. The shortfall will be balanced by withdrawing principal from our Endowment account. The 2016 budget shortfall is due in large part to the Treasurer not actively reminding members to pay their regular dues; almost 50 people are past due on their dues payment. In 2017 we will be more active in soliciting your dues payment!

Also shown are major capital expenses in 2016 that were paid for using Endowment Fund monies.

Not itemized in the revenue/expense lists below are CSS activities that are approximately revenue-neutral, including field trips and the Past-President's dinner. Also not shown is the pass-through of interest income from our Memorial Funds which is awarded as student grants.

Revenue

Dues: \$20x73 regular, \$10x7 Corresponding, \$5x2 Student	\$1,550
2015 accrued interest, Endowment Fund	\$1,850
<u>Total revenue</u>	<u>\$3,400</u>

Annual Expenses

Meeting space (total of 8 meetings church+ \$300 AMC for Emmons)	\$850
Corporate Insurance (covers liability at meetings and on field trips)	\$725
Website (Hosting, \$100; monthly page updates, \$150)	\$250
Emmons Honorarium	\$1000
Science Fair awards (\$100, \$75, \$75 and \$50)	\$300
Student night awards (\$250 and 5x\$50)	\$500
Newsletter expenses (stamps)	\$90
Post office box rental	\$40
State reporting fee	\$25
Best Paper award (new plaque; engraving on plaque and mug)	\$300
<i>Total Annual Expenses</i>	<u>\$4,000</u>

Capital expenses paid from Endowment Fund

Website redesign	<u>Expense</u>
GSA booth	\$1,100
Beer mugs (to give to speakers)	\$600
	\$325
Total capital expense	<u>\$2,025</u>

Don Sweetkind, CSS Treasurer, Dec. 14, 2016

2016 Student Research Grants from CSS Memorial Funds

In 2016, the Colorado Scientific Society awarded research grants to 12 students, for a total amount of \$11,000. The individual grants ranged from \$440 to \$1140, and the recipients included 7 Ph.D. candidates, 4 M.S. candidates, and one undergraduate. A full report on the grants, including names, institutions, and the students' thesis research topics, can be found in the May, 2016 CSS newsletter. The grants are funded by interest income of the Society's six Memorial Funds earmarked for student research grants—see <http://coloscisoc.org/grants/> .

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Colorado Scientific Society Awards at Colorado Science & Engineering Fair (CSEF)

The CSS gave 4 “Excellence is Geology” awards to students at the Colorado State Science & Engineering Fair, held in Fort Collins, CO, April 7, 2016:

Wyatt Wiening, Trinidad, CO, “**Strength Exerted by Montmorillonite Clay**”, \$100 award.

Michaela Ravenkamp, Hugo, CO, “**Crop SOS: Do Crops Create Micro-climates?**”, \$75 award.

Nathaniel Miner & Drake Ludgate, Brush, CO, “**Deadly Stratification: The Role of Temperature on Linnic Eruptions**”, \$75 award

Josef Perko, Fort Collins, CO, “**Effects of Sublimation of Dry Ice on Mars Geology**”, \$50 award.

As well as giving congratulations to these students for their projects, our thanks go to Chuck Weisenberg and Tom Sutton, CSS members, for their willingness to take the time to judge the exhibits and make these awards. **Looking for a new volunteer(s) to help with this:** The CSS is seeking one or two new volunteers to help evaluate the projects for these awards! Both Chuck and Tom have been doing this for quite a few years, and Tom in particular has informed us that his health is making him unable to continue as a judge. If you would be willing to help be part of our judging team for these awards, please contact Marith Reheis, 303-277-1843, marith16@gmail.com . The 2017 CSEF will take place on the CSU campus in Fort Collins on April 6-8, 2017 (judging will take place on Thursday, April 6).

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Upcoming Science Fairs – Looking for Judges! In addition to our own State science fair award, judges are sought for several school, regional, and state science fairs:

Community Resources, Inc., can use more judges at several upcoming science fairs in Denver Public Schools. “We just received word that Southmoor Elementary (SE Denver ,which had 45 projects last year, has 180 projects this year. So we need more judges for its fair on **Tuesday, January 10th**. We also need more judges for Bryant Webster (NW Denver) on **Friday, January 13th** and for the DPS District Science Fair at DU on **Saturday, January 21st**.” These school fairs are in the mornings, approx.. 8 a.m. to noon. To volunteer, you may sign up online at <http://www.signupgenius.com/go/8050f4eada628a13-community> or, email or call Sue Edwards, Executive Director, Community Resources Inc., 720-424-6523, sue_edwards@dpsk12.org .

The 2017 Longs Peak Science and Engineering Fair will be on **Tuesday, February 14**, at the Island Grove Event Center, 425 N. 15th Avenue, Greeley (shuttle service will be available from UNC). “We are anticipating higher numbers of grade 5-12 students than we’ve ever had before. Over 400 student researchers from Weld, Larimer, & Jackson County will compete for a chance to move on to state-level competition .The students will present their creative project ideas! Please share this message with anyone who might have an interest in helping with the event, check your schedules and ask for time off that day from your classes or work so that you can lend your expertise to judging and/or project inspections that day. Qualifications: Interest in youth STEM education is a must; a degree in a STEM field is NOT needed or required. Volunteers needed (training provided day of fair) include Project Board Inspectors, 7:15am – 9:00am; Morning Judges, 8:00am – 12:30pm; Afternoon Judges, 12:15pm – 5:00pm; All-Day Judges, 8:00am – 5:00pm. Volunteers may register at www.lpsef.org .

The 2017 Denver Metro Regional Science & Engineering Fair will take place on the CU-Denver campus on **Friday, February 17**. “We are always looking for mentors, volunteers, and judges.” To register as a judge, see <http://denversciencefair.com/> . They ALSO need volunteers to help in advance on their Scientific Review Committee, as well as for Display and Safety, “Wayfinders”, and photographers—all this is on their web page.

The 2017 Colorado State Science & Engineering Fair “will be held on **Thursday, April 6** so mark your calendars now! We need you! Grand Awards Judging is an all-day event and judges need to be in attendance at the fair from 10 a.m. - 5:30 p.m.” To sign up as a Grand Award Judge (that’s the name for judges for the main competition) register online at <http://www.csef.colostate.edu/Judges.htm> . Volunteers are also needed for numerous categories of help in addition to judging; see their website for this too.

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November’s “Where is this Rock?”

I was really impressed by the complex pattern of banding and fracturing in this rock! It was brought to me by a longtime USGS colleague, John Stuckless (now a scientist emeritus), “one of whose grandkids found it, somewhere near Fairplay, he thought”.. My first correct guess on this, out of 2 or 3 I received, came from Bob Kirkham: “My guess is zebra rock, from the Leadville Limestone. Could be anywhere in or near the Mosquito Range.”

“Zebra dolomite” is a not uncommon texture formed during diagenesis and always a good topic for debate as to exactly how it forms; here is one of many papers about it: <http://geology.indiana.edu/merino/pdf/2006GeolActa.pdf> , “Genesis of self-organized zebra textures in burial dolomites: Displacive veins, induced stress, and dolomitization”, by E. Merino et al., *Geologica Acta*, Vol.4 , N° 3, 2006, 383-393. It is found worldwide but in Colorado, is especially known from the Leadville/Mosquito Range area. In some cases this texture in the dolomite is further replaced by sulfide minerals (pyrite, sphalerite, galena), such as I have seen at the Sherman mine, near Leadville.

When John brought this rock to me I did not immediately declare it to be “zebra dolomite”; most such rock is just rhythmically laminated—the interesting fracture network threw me off, and I was unsure whether it was perhaps sandstone, gypsum, limestone, or dolomite. So I tried some tests to fully confirm it; I found that both the white and dark gray layers were composed of grains with rhombohedral cleavage that had the optical properties of dolomite or calcite, and effervesced only very slowly in cold HCl. A neat rock! John still has it (or rather, I think he has returned it to his grandson).

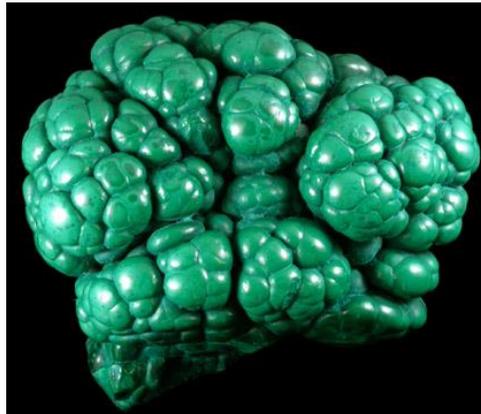


December “Where (What) is this Rock?”

Many of you know that my biggest interest in geoscience is “minerals”, so, for this month, I’m just going to make it a “What?” instead of a Where, and I’m showing you a suite of (of course, for the season) red and green minerals. You should all recognize some of these—a few are very easy, some are a little harder. Write and give me your guesses, #1 through 7, and I’ll report the winners in January.



Number them as, left to right:
top row: 1 – 2 – 3 – 4
bottom row: 5 – 6 – 7



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Colorado Scientific Society dues are \$20 for regular members, \$10 for corresponding members (outside the Colorado Front Range area) and only \$5 for students. Mail a check to the CSS or pay with a credit card using PayPal on the CSS website. Contact CSS Treasurer Don Sweetkind at 303-236-1828 or dsweetkind@usgs.gov if you are uncertain of your dues and membership status. Extra payments to contribute to our Memorial Funds or Endowment Fund are always most welcome; you’ll see a list of them on the membership form attached to this newsletter, or see our website at <http://www.coloscisoc.org/membership/dues.html>.

Colorado Scientific Society, P.O. Box 150495, Lakewood CO 80215-0495 <http://www.coloscisoc.org>

Calendar of upcoming events

Mon., Jan. 9, 7:00 p.m., at the monthly DREGS (Denver Region Exploration Geologists Society) meeting, “**Footprints across the southern Balkans: Discovery of the Cukaru Peki Cu-Au deposit, Serbia, and other observations on exploration in former Yugoslavia**”, by Vertrees M. ‘Mac’ Canby. All are welcome; 241 Berthoud Hall, Colorado School of Mines campus; social hour at 6:00, program at 7:00.

Tues., Jan. 10, 10:30 a.m., the USGS Rocky Mountain Science Seminar series begins with “**Constraints on climate and the carbon cycle during the early evolution of animals**”, by Kristin Bergmann, Massachusetts Institute of Technology. Visitors are welcome; in the Building 25 auditorium (enter the Federal Center at the main gate, Gate 1, on Kipling St.; park east of building 25 and use building entrance E-14).

Thurs., Jan. 12, 7:00 p.m., The Friends of the Colorado School of Mines Geology Museum's "First Thursday" lecture series will begin 2017 on 12 January (yep, the 2nd Thursday of the month!) on the CSM campus in the Ben H. Parker Student Center, Ballroom E, Maple Street, Golden, CO 80401. Socializing begins at 6:30 PM and the lecture will start at 7:00. Admission is free and all are welcome. The guest speaker will be Dr. Gavin Hayes, Research Geophysicist, USGS National Earthquake Information Center, “**Earthquakes and Earthquake Response in the 21st Century**”.

Thurs., Jan. 12, 7:30 p.m., at the bimonthly meeting of the Colorado Chapter, Friends of Mineralogy, “**Minerals of Montana**”, by Mike Gobla. Denver Museum of Nature & Science, VIP Room. All are welcome.

Thurs., Jan. 19, 4:00 p.m., Van Tuyl Lecture Series at Colorado School of Mines, “**Gold deposits in metamorphic rocks: why are we getting more confused?**”, by Richard Goldfarb, CSM. Berthoud Hall Room 241, all are welcome.

Thurs., Jan. 19, 7:00 p.m., monthly meeting of the **Colorado Scientific Society**, featuring a talk by **Giff Miller**, INSTAAR and Geological Sciences, University of Colorado, a talk about **Arctic Warming**. At Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood. All are welcome.

Tues., Jan. 24, 10:30 a.m., USGS Rocky Mountain Science Seminar series, “**How salty was the sea? Constraining seawater chemistry with ancient evaporites**”, by Clara Blättler, Princeton University. Visitors are welcome; in the Building 25 auditorium (enter the Federal Center at the main gate, Gate 1, on Kipling St.; park east of building 25 and use building entrance E-14).

Thurs., Jan. 26, 4:00 p.m., Van Tuyl Lecture Series at Colorado School of Mines, “**Differential zircon fertility, sedimentary recycling, and other problems for detrital zircon geochronology in provenance studies: Detrital monazite to the rescue!**”, by David Moecher, Univ. of Kentucky. Berthoud Hall Room 241, all are welcome.

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For more lecture series during the year see:

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/>.

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

CSU Dept. of Geoscience Seminars (Fridays, 4 p.m.), see <http://warnercnr.colostate.edu/geo-news-and-events/departement-seminars>

Van Tuyl Lecture Series, Colorado School of Mines, (Tuesdays, 4 p.m.): http://inside.mines.edu/GE_Lecture-Series

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

Denver Region Exploration Geologists Society (DREGS; 1st 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.

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

Western Interior Paleontology Society (WIPS; Denver Museum of Nature & Science, 1st Monday, 7 p.m.), <http://westernpaleo.org/>.

2017 Colorado Scientific Society meetings: (3rd Thursday of each month)

January 19	May 18 (Emmons Lecture)
February 16	September 21 (Student Paper Night)
March 16	October 19
April 20	November 16
	December 21

A full schedule of speakers and titles for 2017 will be in the January newsletter.

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New CSS Officers for 2017 (elected at the December 21 meeting)

President.....	Marith Reheis, 303-277-1843, marith16@gmail.com
President Elect.....	Bob Raynolds, bob.raynolds@dmns.org
Past President.....	Peter Barkmann, 303-384-2642, barkmann@mines.edu
Secretary.....	Lisa Fisher, 303-215-0480, lisa.fisher@alumni.mines.edu
Treasurer.....	Don Sweetkind, 303-236-1828, dsweetkind@usgs.gov

Councilors

2015-2017: Bruce Geller, bgeller@mines.edu, 303-273-3823
2015-2017 Pete Modreski, pmodreski@usgs.gov, 303-202-4766
2016-2018: Linda Barton Cronoble, lbarton1611@gmail.com, 720-338-1237
2016-2018: Melissa Foster, melissa.ann.foster@gmail.com, 707-498-2484
2017-2019: Jim Reed, jim@rockware.com
2017-2019: Chris Morrison, chris-morrison@comcast.net

Committee Chairpersons

Database Manager: Don Sweetkind, 303-236-1828, dsweetkind@usgs.gov
Field Trip Chair: Cal Ruleman, 303-236-7804, cruleman@usgs.gov
GSA Meeting Co-chairs, Lisa Fisher & Libby Prueher
History Chair: Beth Simmons, cloverknoll@comcast.net
Hospitality Chair: Linda Barton Cronoble, 720-338-1237, lbarton1611@gmail.com
Membership Chair: open
Newsletter Editor: Pete Modreski, 303-202-4766, pmodreski@aol.com or pmodreski@usgs.gov
Outreach Chair: open
Past Presidents' Best Paper Award, Peter Barkmann, 303-384-2642, barkmann@mines.edu
Publicity Chair: open
State Science Fair: Chuck Weisenberg, 303-238-8806, cweisnrg@msn.com
Student Programs Chair: Melissa Foster, Melissa Foster, melissa.ann.foster@gmail.com, 707-498-2484
Student Research Grants Chair: Peter Barkmann, 303-384-2642, barkmann@mines.edu
Webmaster: Barb Warden, 303-278-2701, bwarden@tablemtn.com

To members receiving the newsletter by surface mail – this is “Part 2” of our December newsletter; you should have received Part 1, the first 4 pages, last week. Happy Holidays!



Colorado Scientific Society

Application and Membership Update Dues and Funds Contributions

Date _____

New Member _____

Renewing Member _____

_____ (email address) _____ (Telephone)

_____ (Last Name) _____ (First Name) _____ (Initial)

_____ (Address)

The success of most Society activities depends on volunteer help. Please circle any activities for which you can provide assistance. We will pass your name on to the appropriate Committee Chairperson.		
Field Trips	History	Outreach
Fund Raising	Newsletter	Program/Talks

Annual Dues (January – December)

Regular Members \$20 _____

Corresponding Members \$10 _____

Student Members \$5 _____

Memorial Funds: These funds support research grants to graduate students in the Earth Sciences throughout the nation. *Please note if contribution is made in the memory of an individual.*

Ogden Tweto Memorial Fund _____

Steven Oriel Memorial Fund _____

Edwin Eckel Memorial Fund _____

Bill Pierce-Heart Mountain Fund _____

George Snyder Memorial Fund _____

Chuck Pillmore Memorial Fund _____

Endowment Fund:

This fund is used to support the Society's monthly meetings and newsletter, field trips, family night, annual Emmons Lecture, invited speaker honorarium, and special activities. _____

TOTAL CONTRIBUTIONS (DUES AND FUNDS): _____

Please make your checks payable to the: <i>Colorado Scientific Society</i>	Or register and pay on-line using PayPal at: http://www.coloscisoc.org/membership/duespaypal.htm
Send this form & your check to: Colorado Scientific Society P.O. Box 150495 Lakewood, CO 80215-0495	