

# Colorado Scientific Society

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

## 2010 CSS Annual Student Night Competition



*Three schools...six talks....one great night!*

Wednesday, October 20, 2010

Colorado School of Mines—Dept. of Geology and Geological Sciences

Berthoud Hall, Room 241, Golden, Colorado

Social half-hour – 6:30 p.m. Meeting time – 7:00 p.m.

## OCTOBER MEETING STUDENT NIGHT—by Don Sweetkind

Each year the Colorado Scientific Society invites students from the regional schools to present talks at our Student Night. The students presenting have been selected from a larger group of potential speakers who submitted abstracts to us; we selected the top six abstracts. Many of these students are using this meeting to practice their talks for the upcoming GSA and AGU meetings, so please help them by attending! Each of the speakers will receive a cash prize and free membership in the Society for 2011.

Speakers presenting at the 2010 Colorado Scientific Society Student Night Competition:

**Kristin Jacob, Ph.D. candidate at the University of Colorado**, “The volcano-plutonic connection at the mid-Tertiary Never Summer igneous complex, north central Colorado.”

*[Recipient of 2010 CSS Memorial Funds research grant from the Tweto and Oriel funds]*

**Natalie Kramer, finishing her M.S. in Fluvial Geomorphology at Colorado State University**, “Subsurface mapping of Quaternary deposits using seismic refraction and ground penetrating radar (GPR) in Beaver Meadows, Rocky Mountain National Park.”

*[Recipient of 2010 CSS Memorial Funds research grant from the Eckel fund]*

**Nicholas Silvis, M.S. program (Reservoir Characterization Project), Colorado School of Mines**, “Sequence stratigraphic and 3D geologic modeling at Delhi Field, Northeastern Louisiana, to optimize CO2 flood efficiency.”

**Melinda A. Solomon, M.S. program, Colorado State University**, “Shear wave splitting beneath the Bighorn Mountains, Wyoming: Analyzing the need for models of complex anisotropy.”

**Ulyana Nadia Horodyskyj, Ph.D. candidate at the University of Colorado**, “Orbital and ground-truth spectral matching on the upper slopes of Mt. Kilimanjaro with application to Martian orbital observations.”

**Melissa Foster, Ph.D. candidate at the University of Colorado**, “Nickpoints in tributaries of the South Fork Eel River, northern California.”



### CSS President's Message by Scott Minor

Happy fall all! For those of you living in the Colorado Front Range region, I hope you have been enjoying our Indian summer as much as I have (it must be my California roots). I cannot think of a better way to usher in the fall than take a field trip to the Aspen region to enjoy the colorful foliage, tour the diverse geology, and celebrate Bruce Bryant's exceptional research accomplishments in and beyond the Colorado Rockies. Well, that is exactly what over 50 CSS members and friends did the last weekend of September (see photos elsewhere in newsletter). As a bonus, we were treated to some spectacular weather and a surprise birthday party for Bruce! Many thanks to the field trip presenters (Bob Kirkham, Lucy Piety, Ed Larson, Pete Birkeland, Ed Dewitt, Chris Fridrich, Ralph Shroba, Cal Ruleman, and of course Bruce Bryant) and to our fieldtrip chair extraordinaire Cal Ruleman for making this event a great success!

Looking ahead, late October is shaping up to be a busy but exciting time for CSS. First, our annual Student Night Competition on the 20th promises to showcase impressive new research presented by six student speakers who will be vying for prize money. Don Sweetkind kindly offered to organize this year's competition, and I am most grateful for his efforts. Second, thanks to the hard work of Lisa and Thom Fisher and others, CSS will be in

...continued on next page...

A “minor” note: In case some of you were wondering, the ad-hoc “website committee” has not abandoned the much-needed revamp of the CSS website. Regrettably, we have had to put that effort on hold due to other commitments of our time and energy over the past few months, not the least of which were preparations for GSA. I am happy to say that we are planning to resume the website work in November after GSA. Thanks for your continued patience!



On April 8, 2010, CSS members Chuck Weisenberg and Tom Sutton judged and awarded the CSS Special Awards for earth science projects at the Colorado State Science and Engineering Fair held at the Lory Center on the campus of Colorado State University in Ft. Collins. The winners were as follows.





## Come Support CSS at GSA!!

Lisa Fisher, 303-215-0480, lisa.fisher@escalantemines.com



If you have been reading the newsletters, you know that CSS is heavily involved with the GSA Annual Meeting in Denver this year:

1. We are now an Associated Society of GSA
2. Topical Session T94 on the history of CSS and Colorado Geology
3. Field Trips 413 and 418 to the Lakes' Quarries 5 and 10
4. Booth 123 on the Exhibit Floor

### *What do we still need?*

- We still need more member participation for our “panel discussion” scheduled on Monday afternoon at 2:15p to 3:00p: Notable Members of the Colorado Scientific Society, Lee Shropshire, Moderator. Lee has agreed to help organize this time to discuss CSS members and their contributions not covered in the previous talks. We ask our members (YOU!) to help us prepare this information. Please submit your suggestions—*soon!* Do you have some personal anecdotes or remembrances of working with this person, or what do/did you admire about him/her or the work he/she did? Who do you think should be on this list? We need your input!. This is a rather informal section dedicated to honoring our members not already covered by preceding talks. We ask for volunteers to step up to make this portion of the session a success. Contact Lee Shropshire! (leeshrop@comcast.net)
- We are accepting much needed donations towards booth costs. Thanks to those who have already contributed, we have raised over \$500 so far!
- We need gregarious volunteers to help staff the booth.
- We want these activities to be a success, so please support us by advertising and attending the session and booth!

\*\*\*\*\*

### **From September Newsletter—with updates**

This year CSS will be involved with the Annual GSA meeting in several ways. I ask for your support in helping to make this a successful effort, by attending and helping to publicize these functions, encouraging others to attend, contributing to our panel discussion, and also by helping to raise funds for our booth. This participation in GSA was planned by the Council as part of our effort to move CSS into the next decade, and to better define the continuing role of CSS in the earth science community. I'd like to thank Libby Prueher, Thom Fisher, Scott Minor, and Beth Simmons, who have worked with me on this monumental task. Time for more of our CSS members to step up now, we need you!

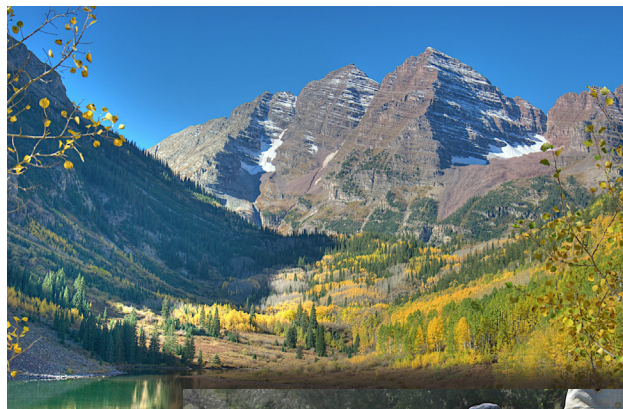
1. CSS is now an Associated Society of GSA!! **One of the perks of this arrangement is that CSS members who are not GSA members can register for GSA activities at GSA member prices.** We will be exploring other aspects of this collaboration as the year continues.
2. CSS is sponsoring Topical Session T94: “The Colorado Scientific Society and 150 Years of Geologic Research in Colorado: Early Colorado Geology and Important Scientific Contributions by the Founders and Members of the Rocky Mountain Region’s Oldest Scientific Society, Founded in 1882,” to be held Monday, November 1, 2010, room 703. The session schedule can be found online at:  
[http://gsa.confex.com/gsa/2010AM/finalprogram/session\\_26343.htm](http://gsa.confex.com/gsa/2010AM/finalprogram/session_26343.htm) (morning, 8 a.m. to noon)  
[http://gsa.confex.com/gsa/2010AM/finalprogram/session\\_27482.htm](http://gsa.confex.com/gsa/2010AM/finalprogram/session_27482.htm) (afternoon, 1:30–5:30 p.m.)
  - Emmett Evanoff’s talk on the Western Surveys begins at 9:00. You will see that 9:15 to 9:45 are listed as “Discussion and further information: The Western Surveys, Emmett Evanoff, presenter. This enabled Emmett to have a longer time slot for his talk
3. CSS is sponsoring a field trip to compliment this session; it is being offered both pre- and post-meeting: “Historic Dinosaur Quarries within a Newly Interpreted Paleoenvironmental Context”; Trip 413, Sat. Oct 30, or Trip 418, Thurs. Nov 4 (<http://www.geosociety.org/meetings/2010/fieldTrips.htm>). As of Oct. 7, there are 19 people registered for the pre-meeting and 13 for the post-meeting trip. This trip will tie in with several of the session talks on Arthur Lakes and his work, and current work being done on Lakes’ quarries.
4. CSS will have a booth in the Exhibit Hall! Booth #123. Thom Fisher, our booth chair, needs your help in raising funds to cover expenses of booth rental equipment. We thank several members for their *generous* contributions, but more is needed to give our booth a polished professional look. Keep in mind that we need to present our Society as the professional, high-quality group that we are. There are likely to be about 6,000 attendees at the conference, many of whom are local and potential new CSS members. We welcome individual donations, but we also suggest soliciting donations from corporations that support earth science or community groups. Please help us in making calls or visits to potential contributors!





# **Fall 2010 CSS Field Trip to the Aspen region honoring Bruce Bryant.**

(Photographs by Brian Marshall and Scott Minor.)





## STUDENT SCHOLARSHIPS!!!

Each year the Society for Mining, Metallurgy and Exploration (SME) offers up to 25 scholarships to SME student members for academic excellence. Check it out at: <http://www.smenet.org/scholarships/>

---



## STUDENT RESEARCH FELLOWSHPS!!!

### Fall 2011 EPA Greater Research Opportunities (GRO) Fellowships for Undergraduate Environmental Study

URL: [http://www.epa.gov/ncer/rfa/2011/2011\\_gro\\_undergrad.html](http://www.epa.gov/ncer/rfa/2011/2011_gro_undergrad.html)

Open Date: 09/14/2010 – Close Date: 12/09/2010

Summary: The U.S. Environmental Protection Agency (EPA), National Center for Environmental Research (NCER), invites applications for the Greater Research Opportunities (GRO) Fellowships for undergraduate environmentally related study for bachelor's level students. The application deadline is December 9, 2010. Subject to availability of funding, the Agency plans to award approximately 40 new fellowships by July 29, 2011. The fellowship provides up to \$19,700 per year of academic support and \$9,500 for internship support for a combined total of up to \$48,900 over the life of the fellowship. The GRO program enhances and supports quality environmental education for undergraduates, and thereby encourages them to continue their education beyond the baccalaureate level, and pursue careers in environmentally related fields. The actual amount awarded per year will vary depending on the amount of tuition and fees and the number of months the stipend is required. This fellowship is intended to help defray costs associated with environmentally oriented study leading to a bachelor's degree.

### THE QUART ZIPLOCK FIRST-AID KIT (submitted by Emmett Evanoff) (A recipe by Pat Monaco)

Into a quart Ziplock bag load the following:

- One package of Moleskin, one Band-aid Blister Block, and five 1 inch x 3 inch Band-aids
- One sanitary pad (excellent for sopping up wounds with a large amount of bleeding)
- One small tube of triple antibiotic ointment with pain killer (Neosporin or equivalent)
- Three 4 inch x 4 inch clean or sterile dressing (keep in a snack-size bag)
- Two to four tablets of 200 mg ibuprofen, two tablets of 325 mg aspirin
- One 2 inch x 5 foot ace wrap, with 2 sharp safety pins
- Six antiseptic wipes (Wet Ones), six alcohol wipes
- One small roll of Johnson and Johnson waterproof tape
- Two tablets of 25 mg diphenhydramine (Benadryl)
- Anti-itch spray (Benadryl or equivalent)
- Tweezers for cactus/splinters

Other Emergency Items:

- Silver mylar emergency blanket (“space blanket”)
- Rain poncho, orange
- Medic-alert pendant or bracelet, if appropriate
- Epi-pen for insect allergies, if appropriate
- Leatherman or equivalent (with scissors)



### Dinosaur Discovery Day at Dinosaur Ridge

Girl Scout Day is Saturday, October 16th. As always, your help will really be appreciated! The shifts will be from 10 a.m. –12:30 p.m. and 12:30–3:00 p.m. Lunch provided by a Scout troop!

If you'd like to share your geological wisdom, please contact Clare Marshall:  
[dinodiscovery@dinoridge.org](mailto:dinodiscovery@dinoridge.org)  
303.697.3466 ext. 105.

TWO FORMER CSS MEMBERS INDUCTED INTO THE NATIONAL MINING HALL OF FAME—2010  
By CSS Historian, Beth Simmons

Two CSS Members, **Arthur Lakes** and **Al Heyl, Jr.**, were inducted into the National Mining Hall of Fame in Leadville on September 11, 2010. This honor, long in coming, honors both men who dedicated their lives to mineralogy, the Western mining industry, geological education, to mining journalism, and to art. They join joined a plethora of other CSS members whose likenesses and biographies line the walls of the Hall of Fame. The plaque in Lake's honor reads:

**ARTHUR LAKES, 1844 - 1917**

Arthur Lakes contributed enormously to the geological and mining sciences in the western United States as a geologist, teacher, writer, and artist over a period of more than four decades beginning in 1869.

Born in England, Arthur Lakes came to the United States in 1865 and found his way to Colorado, where he was hired to teach at Jarvis Hall Collegiate School in Golden, Colorado in 1869. Lakes and Edward Berthoud, who taught geology at the fledgling Colorado Territorial School of Mines, established a "geological cabinet," which eventually grew into the world famous Colorado School of Mines Geology Museum.

When Lakes discovered dinosaur bones along the Dakota hogback of the Front Range in 1877, his fame grew instantly. In 1880, he was hired as the permanent instructor of geology and curator at the School of Mines.

Lakes published his first booklet, "A Mining Map of the San Juans" in 1882. Samuel F. Emmons hired Arthur Lakes to help with the research, sketching, and field work for the Leadville project, which culminated in the publication of the celebrated "Geology and Mining Industry of Leadville, Colorado with Atlas" in 1886. Lakes wrote "The Trinidad Coal Region," "The Coal Field of Crested Butte," and the "Geology of the Aspen Region" in 1886; "The Geology of Colorado Coal Deposits" in 1888; and "The Geology of Colorado Ore Deposits" in 1889, which he used as a textbook at the School of Mines.

The much-beloved professor of geology served the school until 1893, when he resigned to take a position as Associate Western Editor of the *Colliery Engineer and Metal Miner* in their new Denver office. As a leading mining journalist, he traveled to remote mining districts, reporting on the geology, the lay of the land, and the possibilities of production, in addition to the scenery and lifestyles. His most famous contributions were his reporting of the Cripple Creek district in the 1890s. He popularized mining through weekly articles in over two dozen different journals, including *Scientific American*, *Mining and Scientific Press*, *Mining Science*, *Mining World*, *Ores and Metals*, and the *Colliery Engineer* and its descendant, *Mines and Minerals*.

In all, Arthur Lakes published over 800 articles and five books – three editions of "Prospecting in North America" and two editions of "Geology of Colorado and Western Ore Deposits." All were illustrated by his "pen sketches," which showed panoramic views, geologic maps, and sketches of minerals, rocks, and fossils.

In 1902, Lakes became the lead consulting mining geologist for the American Exploitation Company in Denver, an investment group that supported extractive industries that ranged from gypsum and limestone quarries to precious metal mines. He continued to serve as a mining consultant until 1912, when he moved to Nelson, British Columbia to live with his sons, both mining engineers.

Still writing about mines, drawing, and painting, Arthur Lakes died in November 1917 in Nelson. His contribution to the modern geological realm is cemented over the doorway of the Colorado School of Mines Arthur Lakes Library.

The plaque for Al Heyl, well known to most of the older CSS members, reads:

**DR. ALLEN V. HEYL, JR., 1918-2008**

Dr. Allen Van Heyl, Jr. was a consummate economic geologist, who served with the U.S. Geological Survey for nearly 50 years beginning in 1943. He studied more of the nation's mineral deposits than most could begin to imagine. He developed a deep and detailed knowledge of the nation's geology and mineral wealth and left a body of written work that will serve science for decades to come— a remarkable legacy of 227 books and papers that he authored or co-authored.

Allen Heyl majored in geology as an undergraduate at Pennsylvania State University and earned his doctorate in geology from Princeton University in 1943. Vision problems made him ineligible for military service in World War II, so he accepted a position with the U.S. Geological Survey, where he could serve in the nation's vital minerals exploration program. His first assignment (along with colleague Allen Agnew) involved the resuscitation of the moribund Upper Mississippi Valley lead-zinc district of Wisconsin, Illinois, and Iowa. The team located the 5-million-ton Bausch deposit near Galena, Illinois and other resources resulting in the recovery of mineral wealth valued at over \$1 billion between 1943 and 1978. This work also resulted in 24 major reports on the upper Mississippi-type deposits authored or co-authored by Heyl and included additional exploration in southeast Missouri; the Tri-State District of southwest Missouri, northeast Oklahoma, and southeast Kansas; Arkansas; central Tennessee; and the Illinois-Kentucky fluorspar district.

The 1950s brought Allen Heyl new assignments coinciding with a surge in national interest in nuclear power. Field work in 1954 took him to the Bitter Creek carnotite deposits of Montrose County, Colorado, and in 1956 he examined the radioactive rare earth minerals of the Scrub Oaks mine in New Jersey and uraninite occurrences near Peekskill, New York.

Also, beginning in 1954, Heyl's expertise in the geology of lead and zinc deposits took him to Leadville, Colorado, where he investigated and interpreted the oxidized zones of former sulfide-enriched orebodies. In the 1960s, he published a series of reports that helped extend the life of the Leadville district into the new millennium, when Asarco finally closed the Black Cloud mine.

During the same period, Heyl undertook the first significant geological study of chromite and other mineralization of the serpentine belt of Maryland, Pennsylvania, and Delaware. Simultaneously, he co-authored a report, published by the Maryland Geological Survey in 1965, on the copper, zinc, lead, iron, cobalt, and barite deposits of that state.

Other assignments took him to mining camps in Hansonburg and Socorro, New Mexico, the Taylor District and the Great Basin regions of Nevada, Utah's Tintic District, the Eagle District of Colorado, California's Mojave District, the Viburnum Trend in Missouri and many more.

Dr. Allen Heyl's career was both vocation and avocation. His job was never just another day at the office, and it can be truly said that his suitcase was rarely unpacked.

Lakes and Heyl join a passel of pals from the Colorado Scientific Society whose photos and biographies grace the Hall of Fame. One of Lakes' students, one of the first graduates of the 4-year program at Colorado School of Mines in 1887, **Walter H. Aldridge**, metallurgist from Pueblo, heads the CSS/NMHF list. **Phillip Argall**, the famed metallurgist who perfected the cyanidation process, served as President of the Society in 1906, and his grandson, **George Oates Argall**, who edited *Mining World*, have both been duly honored. **David William Brunton**, inventor of the Brunton compass and other tools of the trade, served as Second Vice President in 1906, and first VP in 1907 and 1908. He was honored with recognition as a Fellow of the Society. **John Van Nostrand Dorr**, who invented the Dorr Classifier and other equipment, along with our founding father, **Samuel Emmons**, and charter member **Nathaniel P. Hill**, developer of the first smelter in Colorado, also grace the Hall. **R.A.F. Penrose, Jr.** was awarded Fellow status in the Society; his likeness hangs in Leadville as well as at GSA in Boulder. Famous mining engineer and journalist, owner of the *Mining and Scientific Press*, **Thomas A. Rickard**, joined the Society in 1893, served a term as 1<sup>st</sup> Vice President of the Society in 1896 just before being appointed Colorado State Geologist, but when he moved to San Francisco in 1903, he declined the tedious position of corresponding secretary/librarian. **Dr. Louis D. Ricketts**, a member we don't hear much about, joined the Society in 1892. Ricketts became the Head Mining Engineer for Wyoming Territory after a sojourn with the Evening Star Company in Leadville, then moved into the Arizona copper industry. Inventor **Arthur R. Wilfley** joined the Society in 1895 as an associate member and continued his membership through 1916.

This short list illustrates the wealth of talent and scientific intelligence that has been the Colorado Scientific Society. Adding **Arthur Lakes** caps the list, as far as CSS is concerned! For more information, study the CSS website and also the biographies posted on the National Mining Hall of Fame site!



Can you u match the names with the photo of the famous CSS members? Which pair are grandfather and grand-son?

Names to choose from: Phillip Argall, George Argall, R.A.F. Penrose, Jr., John Van Nostrand Dorr, Nathaniel P. Hill, Samuel Emmons, Thomas A. Rickard, David Brunton, Arthur R. Wilfley, Walter Aldridge, and the two new-est inductees, Arthur Lakes and Al Heyl.



Answers to the CSS/MHF  
photo quiz:  
A) David Brunton, B) Arthur  
R. Wilfley, C) Samuel F.  
Emmons, D) Walter Aldridge,  
E) Nathaniel P. Hill,  
F) Thomas A. Rickard, G)  
R.A.F. Penrose, Jr., H) John  
Van Nostrand Dorr, I) George  
Argall, J) Phillip Argall, K)  
Arthur Lakes, L) Al Heyl, Jr.  
George Argall(I) was Phillip  
Argall's(J) grandson.



## Earth Science Meetings and Talks

Newsletter items must be received by the 25th of each month.



**Colorado Scientific Society's** regular meetings are held the 3rd Wednesday of the month at the Colorado School of Mines Geology Building in Golden (unless otherwise advertised). Social time begins at 6:30 p.m. and talks start at 7:00 p.m. For more information, contact Scott Minor, at 303-236-0303, [sminor@usgs.gov](mailto:sminor@usgs.gov)

**Café Scientifique** Wynkoop Brewery, evening science talks at 6:30 in the Mercantile Room. Free, except for beer. **Nov. 16** Jaelyn J. Eberle, *U.C. Boulder Museum of Natl. History*, "Long Hot Nights in the Eocene Arctic: What they tell us about global temperature change." For upcoming schedule go to: <http://www.cafescolorado.org/Upcoming.htm>

**CO-AIPG (American Institute of Professional Geologists, Colorado Section)** 11:30 a.m. social gathering; Noon luncheon and subsequent speaker presentation. **Oct. 19** Loren Ligocki, *Newmont Mining Co., Denver*, "Modeling Systems of the Newmont Technical Services Economic Geology Team." 2010 luncheons held at the Petroleum Club (in the Denver Athletic Club building), 1325 Glenarm Street, Denver. Please make an advance reservation. Cost is \$25 w/ advance reservation and \$30 at the door. Paid parking available along street (metered) or in adjacent parking lots and parking structure. Contact Jim Russell by Noon on Oct. 15 for reservations: 303-278-4456 (hm), 303-815-3901 (cel), or e-mail [summitdatasvcs@msn.com](mailto:summitdatasvcs@msn.com)

**Colorado Mountain Club** **Nov. 6** *Boulder Group annual dinner with '67 Colorado McKinley expedition leader and author Howard Snyder.* Avalon Ballroom, 6185 Arapahoe Road, Boulder. \$11.00 in advance. For more info. and reservations: <http://www.cmc.org/events/eventdetails.aspx?EventID=2204>

**Colorado School of Mines, Van Tuyl Lectures** **Oct. 21** Sam Romberger, *Professor Emeritus, Colo. School of Mines*, "In situ of Uranium and the Behavior of Trace Elements Affecting Groundwater Aquifers." **Nov. 11** Dr. Gerrard Demaison, "TBA." Thursdays from 4-5 p.m. in Berthoud Hall room 241. <http://www.mines.edu/academic/geology>

**Colorado State University, Dept of Geosciences** **Oct. 18** Dr. Ken Dueker, *Univ. of Wyoming*, "Results from the Colorado Rocky Mountains Experiment." **Oct 25** Dr. Carl Legleiter, *Univ. of Wyoming*, "Measurement and Mapping of Riverine Environments via Optical Remote Sensing." **Nov. 4** Francesco Comiti, *Univ. of Bolzano, Italy*, "Recent Advances on the Dynamics of Steep Channels." **Nov. 10** Dr. Mike Batzle, *SEG Honorary Lecture*, "It's the Fluids that Count." Rm 320 Warner College of Natural Resources Bldg., Mondays, 4:00 p.m. 970-491-5661. <http://warnercnr.colostate.edu/geo-training/>

**Denver Mining Club, Ltd.** **Oct. 18** Donna Ware, *Self-A-Ware Minerals, Friends of Mineralogy/Colorado Chapter Preservation Committee*, "Mineral Collection Preservation and the Colorado Miners' Oral History Project." **Oct. 25.** Bob Noll, *Sales Manager*, and Terry Gleason, *Director, Human Resources, Molycorp Minerals*, "The Rare Earth Story—Molycorp Minerals." Country Buffet, 8100 W. Crestline Ave., SE corner at Wadsworth, Littleton, (Purchase of buffet lunch required) Every Monday, except when noted, 11:30a-1:00p (+/-) VISITORS ALWAYS WELCOME! <http://www.denverminingclub.org>

**Denver Region Exploration Geologists' Society (DREGS)** meets in the Mutual Consolidated Water Building, 12700 West 27th Avenue, Lakewood. Social 6:30-7:00 p.m. Presentation at 7:00 p.m. Meetings are normally scheduled for the first Monday of each month. For information contact Jim Piper, (303) 932-0137, or the website <http://www.dregs.org>

**Desk and Derrick Club of Denver** **Nov. 9** Hugh Harvey, *Manager of the Intrepid Companies*, "Some Interesting and Novel Applications of Horizontal Drilling." Monthly meetings are held on the second Tuesday of each month at 11:30a.-1:00p at the Curtis Hotel, 1405 Curtis St., Denver. (lunch is served) <http://www.deskandderrick.org/>

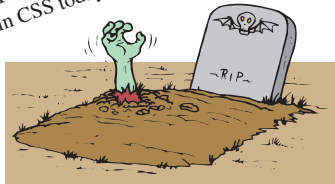
**Rocky Mountain Association of Geologists (RMAG)** **Oct. 15** Jeff May and Donna Anderson, "Mudrock Reservoir Deposition and Stratigraphy: Not Homogeneous." **Nov. 5** Charlie Bartburger, "Morrow Valley fills, SW Kansas." Luncheons are in Denver at the Marriott City Center at California and 17th St. Lunch is at Noon and the Program begins around 12:20 pm. All lunch attendees must pay prior to the lunch with a credit card, Paypal, Check, or Cash. If you do not make the \$30 payment by Thursday prior to the lunch, your lunch will be canceled or sold. Reservations are not accepted after 10:30 a.m. on Wednesday, prior to the luncheon. No reservation is required for the talk only and the cost is \$5.00. <http://www.rmag.org/events/index.asp>

**Univ. of Colorado, Boulder, Geol. Sciences Colloquium** Weds., 4:00 p.m., Rm. 380. Refreshments at 3:30 p.m. on the 3rd floor. **Oct. 20** Rich Briggs, *USGS*, "TBA." **Oct. 27** David Mencin, *Plate Boundary Observatory*, "Experimental Development of the PBO Borehole Strainmeter Program." **Nov. 10** Tony Watts, *University of Oxford*, "TBA." <http://www.colorado.edu/GeolSci/>

Colorado Scientific Society  
P.O. Box 150495  
Lakewood, CO 80215-0495

<http://www.coloscisoc.org>

We DIG new members!  
Join CSS today!!!!



## OFFICERS

President: Scott Minor, USGS, 303-236-0303, [sminor@usgs.gov](mailto:sminor@usgs.gov)  
President-Elect: Lisa Fisher, CSM, 303-478-9427 (c), [lfisher@mines.edu](mailto:lfisher@mines.edu)  
Treasurer: Don Sweetkind, USGS, 303-236-1828, [dsweetkind@usgs.gov](mailto:dsweetkind@usgs.gov)  
Secretary: Lisa Fisher, CSM, 303-478-9427 (c), [lfisher@mines.edu](mailto:lfisher@mines.edu)  
Past President: Don Sweetkind, USGS, 303-236-1828, [dsweetkind@usgs.gov](mailto:dsweetkind@usgs.gov)

## COUNCILORS

2007–2010: Jeremy McCreary 303–744–0907 [jeremy@cliffshade.com](mailto:jeremy@cliffshade.com)  
2008–2011: Lee Shropshire, UNC, 970–352–8778, [leeshrop@comcast.net](mailto:leeshrop@comcast.net)  
2008–2011: Sue Ellen Hirschfeld, [eqdoc@ix.netcom.com](mailto:eqdoc@ix.netcom.com)  
2009–2012: Jim Burnell, CGS, 303–866–2611, [jim.burnell@state.co.us](mailto:jim.burnell@state.co.us)  
2010–2013: Liz Pesce, [epesce@mines.edu](mailto:epesce@mines.edu)

## COMMITTEE CHAIRPERSONS

Best Paper Award: Scott Minor, USGS, 303–236–0303, [sminor@usgs.gov](mailto:sminor@usgs.gov)  
Database Manager: Emily Taylor, 303–236–8253, [emtaylor@usgs.gov](mailto:emtaylor@usgs.gov)  
Field Trips: Cal Ruleman, USGS, 303–236–7804, [cruleman@usgs.gov](mailto:cruleman@usgs.gov)  
Graphics: Lisa Rukstales, USGS, 303–236–5547, [lrukstales@usgs.gov](mailto:lrukstales@usgs.gov)  
History: Beth Simmons, [cloverknoll@comcast.net](mailto:cloverknoll@comcast.net)  
Membership/Mentor: Mitchell Reese, 575-317-4864, [mreese83@gmail.com](mailto:mreese83@gmail.com)  
Memorial Funds: Don Sweetkind, USGS, 303–236–1828, [dsweetkind@usgs.gov](mailto:dsweetkind@usgs.gov)  
Newsletter Editor: Lisa Rukstales, USGS, 303–236–5547, [lrukstales@usgs.gov](mailto:lrukstales@usgs.gov)  
Outreach: Sue Hirschfeld, 720–565–9302, [eqdoc@ix.netcom.com](mailto:eqdoc@ix.netcom.com)  
Pillmore Fund: Lee Shropshire, UNC, 970–352–8778, [leeshrop@comcast.net](mailto:leeshrop@comcast.net)  
Program: Christine Turner, USGS, 303-236-1561, [cturner@usgs.gov](mailto:cturner@usgs.gov)  
Publicity: Libby Prueher, 720-260-0350, [lprueher@umich.edu](mailto:lprueher@umich.edu)  
Science Fair: Chuck Weisenberg, 303–238–8806, [cweisenbrg@msn.com](mailto:cweisenbrg@msn.com)  
Webmaster: Table Mountain Web Design, 303-278-2701, [bwarden@tablemtn.com](mailto:bwarden@tablemtn.com)



**\*\* STOP! Do NOT recycle this until after the talk! Please help us with publicity by posting at least the front page of this Newsletter on a bulletin board. Thank you!**