

Colorado Scientific Society

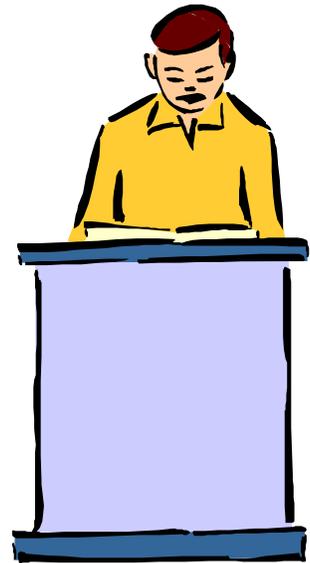
*The objective of the Society is to promote
the knowledge and understanding of Earth science,
and its application to human needs*



Annual CSS Student Night Competition

October 24, 2002

(one week later than usual)



Featuring the winning presentations from regional competitions at Colorado State University, Colorado School of Mines, and University of Colorado.
Presentation titles to be announced.

**Please come out and support the
Geological Stars of the future**

(note venue change)

October 24th, 2002

Colorado School of Mines campus

16th Street between Illinois and Maple
Berthoud Hall room 108 (BH108)

Golden, Colorado

Social half-hour – 7:00 pm

Meeting time – 7:30 pm

map at: http://www.mines.edu/csm_maps/

Colorado Scientific Society Student Night Competition



by **Mark Hudson**

The October CSS program will present three of the best talks by students from Front Range colleges and universities as determined by regional competitions.

Currently, winners of the regional finals have not yet been determined owing to the timing of the competitions relative to release date of the newsletter. Members who receive Society email distributions will be notified of the winning speakers and receive talk abstracts before the meeting on October 24th (one week later than usual). The information will also be posted to the Society web page.

The Colorado Scientific Society Student Night gives Front Range area students an opportunity to present results of their research to a knowledgeable and supportive audience, claim bragging rights for their school, and earn some prize money to boot. For the past several years, regional competitions have been held at the Colorado State University, Colorado School of Mines, and University of Colorado, and the regional winners have presented their talks at the October or November Society meeting.

Student Night was established in 1983 when Chuck Pillmore was Society president. After a hiatus, it was reinstated in 1996 under the presidency of Richard Madole. Since 1996, CSS Student Night has been held annually in the fall, usually shortly before or after the national Geological Society of America meeting. Student presentations from past years have consistently been excellent. Please plan on attending and supporting the local areas students in this year's activity.

A Note from the President

Greetings from Golden, where the view from my 3rd floor office shows color on the trees, rain (or snow?)-laden clouds, and a northerly flappin' the flags on the pole. Must be autumn, and not a minute too soon. The flora in Colorado has been gasping for water all summer long, and the skis in the shed are restless. Given the drought [conditions—delete], water and sand were appropriate topics for September's program talks, and I thought that Norm Spahr and Dan Muhs gave stimulating presentations on the USGS National Water Quality Program and Great Plains Sand Dunes, respectively. In fact, from Dan's talk, one could predict that another year of drought and we might have sand dunes moving across Colfax soon! Please let's see more of you at our monthly meetings; we try very hard to invite only the finest speakers and most interesting topics.

Student Night in October

Don't forget to show up at the October meeting and give your support for our young geoscientists who will compete in the annual student night competition. Regional competitions will be held at Colorado School of Mines, CU Boulder, and CSU in Fort Collins. The three winners will then be scheduled to repeat their presentations at the October 24th CSS meeting in Golden. Because the regional competitions have not yet taken place, we have not yet received the names of the competitors by press time.

Membership Drive Idea – Let the Old Recruit the Young!

There has been a suggestion from one of our members regarding the current membership drive. He suggested that our older members (you know who you are!) select one of their younger non-member colleagues as a target for recruiting. Invite your chosen colleague to lunch, a golf game, a ski trip, a field trip, whatever,... and have a talk with this colleague about the society, invite this colleague to come to one of our meetings, and possibly get this colleague involved in the society in some way (field trips,

volunteer work, etc.). Maybe even sponsor this prospective member with a \$15 first-year dues contribution from your own wallet. I think it a very good idea, and an easy way to start building up our membership, particularly with young geoscientists who will have many years of energy to help carry the society onward.

Fall Field Trip a Success!

A couple weeks ago, I joined Emmett Evanoff and two vans full of CSS members and non-members on the long drive to Jackson Hole on the annual autumn field trip. Emmett should receive many thanks for organizing a wonderful trip; any minor glitches were overshadowed by spectacular weather. Past president Ken Pierce, along with co-leaders Jack Reed and Lisa Morgan, filled our two days with marvelous geology and scenery, and, of course, many geo-tales. Ken told us that water runs uphill, Jack amazed us with stories of scrambling over precipitous cliffs of Precambrian, and Lisa frightened us with images of huge cauldrea explosions and nuée ardentes. I think Ken receives the persistence award for saying “Pinedale““A’ gravel” so many times in two days.

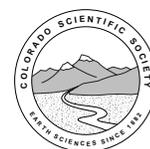


Council Meets, Eats Pizza

The CSS council met over pizza on September 19 for about two hours to discuss a number of important issues. Don Sweetkind, our esteemed treasurer, presented a somewhat numbing graph showing that the CSS Endowment Fund had risen at a nice rate until the year 2001 when the current economic slump began a negative trend. This is good reason to emphasize that contributions to the Endowment Fund are welcome. Please consider a contribution to help the oldest scientific and technical society in the Rocky Mountain region prosper and continue to be able to fund new

and exciting projects. Just to remind our readers, the society funds outreach programs of various types, student research projects, travel expenses for some speakers and especially for the annual Emmons lecturer, and other worthy causes (such as a recent donation to the Rain and Hail study at CSU; sign up now for your own hail card - <http://ccc.atmos.colostate.edu/~hail/enterdata/rain2.html>).

Although the CSS officers may dream of CEO-level salaries and golden parachutes, we remain, as always, volunteers!



Website Update – Outreach Page

With the help of Bill Wingle, our webmaster, our outreach chairperson, Paul Belanger, has added an Outreach page to our website. It contains a growing list of national and local events and research that may be of interest to members and non-members interested in the geosciences. It also contains a nice link to Earth Science Meetings and Talks listed monthly in our newsletter. Because of a concern expressed by one of our members, we have included a policy statement at the bottom of the page:

The purpose of the Colorado Scientific Society, as stated in its constitution is to present scientific papers, discuss scientific subjects, and investigate scientific matters of public concern. Our by-laws specifically prohibit the Society from “carrying on of propaganda, influencing legislation, or participating in political campaigns.” To accomplish our purpose and stimulate scientific investigation and discussion, we are providing a number of links to sites, some of which contain controversial material. The views contained in this material do not necessarily represent those of the Society or its members, and are presented for educational purposes only.

The council also agreed on a policy that all new links be reviewed by the council prior to addition of a link to the page.

CSS History Update Report

At the September council meeting Eric Nelson and Scott Lundstrom, from notes prepared by Marge MacLachlan, reported on the progress of the CSS History update. Much to Marge’s credit, and the committee working with her, it appears that the document may well be ready by the annual business meeting in December. They have done a great job. We plan to place the document in digital format on the website, but we will also have a few hard copies available for special purposes. Remain on the edges of your seats for its arrival!

Who Was Who in Colorado Mineral Names

Paul Belanger suggested that reprinting this article might be interesting to the membership. There are eighteen minerals described, so we intend to include a few each month as space allows.

Richard M. Pearl recorded the following tidbits of Colorado mineralogical history in an article *Minerals Named for Colorado Men*, March, 1941, Colorado Magazine, V. 18, #2, p. 48-53. The information was updated in the new volume, *Minerals of Colorado* by Eckel, et.al. and the Friends of Mineralogy. Of the twelve charter members of the Colorado Scientific Society (whose organizational meeting was held in the rooms of the USGS on December 8, 1882), six had minerals named for them: Pearce, Emmons, Cross, Hillebrand, Beeger, and van Diest.

1) **Pearceite** was named in 1896 by Samuel L. Penfield for Dr. Richard Pearce of Denver. Pearceite was not a new mineral. Since the first analysis made in 1833, it had been recognized as an arsenic variety of polybasite. However, beautiful crystals of this metallic black sulpharsenite of silver found in Montana proved it was a distinct mineral.

Pearce was the brains behind the smelting industry. He had started with a primitive smelter or mill in Clear Creek County near Empire Junction, called the Swansea, in the early 1860’s. Then he and Nathaniel Hill collaborated on the first smelter in Black Hawk. Pearce was the chief metallurgist for the



Boston and Colorado Smelting Company and second president of the Colorado Scientific Society in 1884.

Pearceite carried the bulk of the silver in the Mollie Gibson mine at Aspen, once the most productive silver mine in Colorado. It occurs in the Nederland tungsten District in Boulder County and at the Caribou mine. In Clear Creek County pearceite has been reported in the Lawson District, at the American Sisters mine, Joe Reynolds mine, in the Fall River and the Silver Plume Districts. In Gilpin County, it occurs with galena-sphalerite ores, in Dolores County, it comes from Newman Hill. It also occurs in Hinsdale County, La Plata and Montezuma Counties, Mineral County, Ouray County, and Park and Summit Counties. Some occurs in Saguache County in the Bonanza District and in San Miguel County.

GEON Informatics is Funded

by **Barb Mieras, Geological Society of America**

The GEOsciences Network (GEON) project is a collaboration between IT and Geoscience researchers with the goal of creating a modern information technology framework for the earth sciences. IT research is coordinated by Chaitan Baru of SDSC and colleagues Bertram Ludäscher, Phil Papadopoulos, and Mike Bailey, as well as scientists from Pennsylvania State University and San Diego State University. Geoscience research coordinated by A. Krishna Sinha of Virginia Tech includes 10 additional universities (Arizona State University, Bryn Mawr College, Cornell University, Rice University, University of Arizona, University of Idaho, University of Missouri, University of Texas, El Paso, University of Utah, and UNAVCO). The Digital Library for Earth Sciences Education (DLESE) will lead the GEON education and outreach program. A major partner in GEON is the U.S. Geological Survey (USGS), which will collaborate in building broader access through GEON to selected USGS national scale geological databases. “GEON will seamlessly integrate USGS data with those of the broader geoscience community,” said Charles G. Groat, USGS Director. “And this will significantly speed the pace of geological research.”

Many key questions in earth systems science can only be answered through the discovery of relationships between disciplines. GEON cyberinfrastructure will be critical for integrating and interpreting data collected by projects such as the NSF EarthScope initiative. The IT part of the project encompasses the three core components of a national information infrastructure - grid computing, data management, and visualization. The earth science research will emphasize the development of information and concept integration procedures as well as research that bridges traditional subdisciplines. For more information on GEON, go to www.geongrid.org (or daks.sdsc.edu/geon).

Two testbed regions, viz. the mid-Atlantic and the Rocky Mountains, have been identified to define the GEON geoscience challenges. These regions were selected due to the variety of geological issues embodied within them - requiring interlinking of multiple disciplinary databases - and also because they are areas of expertise for the GEON geoscience research team. The results of GEON research will significantly impact large multi-scale geoscience research programs such as Earthscope, as well as individuals and smaller groups of researchers, thereby leading to an intellectual transformation of the entire science. Recognizing this potential, the U.S. Geological Survey has joined as a major partner and has made creation of key GEON databases a priority effort over the next several years. Via DLESE, GEON will become an important resource for sharing knowledge about the Earth for a variety of audiences, including K-12 students and teachers.

Current Colorado Geological Survey Research

Vince Mathews, Senior Science Advisor, Colorado Geological Survey

Earthquake Hazard Research

The Colorado Geological Survey (CGS) has an ongoing program to evaluate earthquake hazards in Colorado. This work is closely coordinated with the U. S. Geological Survey. The CGS and the USGS jointly convened a three-day conference on earthquake hazard research priorities in Colorado. The 25 participants included representatives from federal and state government, private industry, and academia. This cross section of agencies and scientific disciplines shared a plethora of disparate data that vividly illustrated the need for gathering more information to better define Colorado's earthquake hazards. A consensus was reached on those areas needing further work.

The USGS and CGS jointly investigated the Trinidad earthquake swarm in southern Colorado, which caused minor damage to several structures. A portable seismic network (USGS) and geologic studies (CGS) documented that the earthquakes were occurring along a NE-SW-trending normal fault. Both groups concluded that the evidence for determining whether the earthquakes were natural or were being induced by water injection is equivocal.

CGS initiated research supported by [National Earthquake Hazards Reduction Program (NEHRP) on the Williams Fork graben and the northern Front Range faults. The northern Front Range study is a collaborative effort with GEO-HAZ Consulting, Inc. The Federal Emergency Management Administration (FEMA) provided support to CGS for research in Colorado related to data for the National Earthquake Hazard Maps.

CGS First Online Publication-

CGS completed its first online publication, [Colorado Late Cenozoic Fault and Fold Database and Internet Map Server](http://geosurvey.state.co.us/pubs/ceno/index.htm), which is an interactive map server linked to a downloadable database. This publication combines the Quaternary fault and fold database with additional data on faults that cut Miocene rock units in Colorado. The publication can be accessed at <http://geosurvey.state.co.us/pubs/ceno/index.htm>.



A View Through the Brown Cloud

by Lisa Ramirez Rukstales



Hi folks! Notice the new moniker? Yes, it's true. By the time you read this I will have hiked the marriage path at Garden of the Gods, as close to a temple as I can imagine without going overboard with all that deity stuff. Did you know that in Colorado you can marry sans preacher? What a great idea! Spread the word! Tell the kids! I have to wonder how this one slipped past the State bureaucracy. Are they actually trying to encourage marriage? Oh wait, there is a ten buck fee, and the notary, but basically marriage is quite painless these days, especially since the pin prick of the blood test is no longer required. Yes, my name is now an even bigger mouthful, but I'm looking forward to this fresh start so bear with me. Also in October is the GSA annual meeting here in Denver. This is a festive event and should be shared, so think about sponsoring a needy student for one day. It's only \$75 and they can sign up on-site. The poster sessions are great for stealing graphics ideas. The talks can vary from the pleasing to the "I wish I had my B.S. bingo card with me." I love to sit in the lobby and watch the polar-fleeced crowd go by and compare hiking boot to Birkenstock ratios. Have a great meeting everyone!





Earth Science Meetings and Talks



Newsletter items must be received by the 4th of each month. Items may include special events, open houses, etc...thanks!



Colorado Scientific Society's regular meetings are held the 3rd Thursday of the month at the Colorado Mountaineering Center in Golden (unless otherwise advertised). Social time begins at 7:00 p.m. and talks start at 7:30 p.m. For information, contact Eric Nelson at (303) 273-3811, enelson@mines.edu

Denver Mining Club meets every Thursday (except when noted) at China King 12037 West Alameda Pkwy., Lakewood, 11:30 a.m.-1:00 p.m. **Frontier Mining Methods, 1859 to World War I**, October 3. - Ed Raines, Geologist and Mining Historian. (We'll start our program a bit early for this 70-minute talk.) **Environmental Aspects of Cyanide Use at Gold Mines**. October 10. - Craig Johnson, Research Geologist, U.S. Geological Survey. **Prehistoric Chert Mining on the Great Plains**. October 17. - Steven R. Holen, Curator of Archeology, Denver Museum of Nature and Science. **Calais' Gold Projects in Colorado, Nevada, and Panama**, October 24. - Tom Hendricks, President, and Bob Akright, Vice President, Calais Resources, Inc. **The Great Carlin Gold Robbery, with Comments on Newmont's Assaying and Metallurgical Programs**. October 31. - Bob Macdonald, Director of Metallurgy (Ret.), Newmont Mining Corp. See past and future DMC talks at the web site: <http://www.china-resources.net>.

Denver International Petroleum Society meets the 2nd Friday of each month at the Wynkoop Brewing Co., 18th and Wynkoop Streets. Reception begins at 11:30 a.m., luncheon at 12 p.m., program at 12:30 p.m. Make reservations (required) by leaving message at (303) 623-5396. Reservations accepted after 8 a.m. on Friday until 10:30 a.m. on Wednesday prior to the meeting. Cancellations accepted until 11:00 am Wednesday prior to the meeting. Cost: \$15 for lunches; talk only is available for \$2 (make checks payable to "D.I.P.S."). Contact Keith Murray at (303) 986-8554 for information. **Volta Fan Fold Belt, Ghana, West Africa**, .October 11, Ken Nibbelink, Geologic Advisor in Business Development for Devon Energy, Houston TX.

Denver Region Exploration Geologists' Society (DREGS) meets in the Mutual Consolidated Water Building, 12700 West 27th Avenue, Lakewood. Social hour 6:00-7:00 p.m. Technical presentation at 7:00 p.m. Meetings are normally scheduled for the first Monday of each month. For information contact Jim Piper, (303) 932-0134, or the website <http://www.dregs.org/>.

Denver Well Logging Society (DWLS) meets on the third Tuesday of each month, Sept. through May. Lunch and a technical talk at the Wynkoop Brewery begins at 11:30 a.m., 18th and Wynkoop Sts. in Denver. Subject matter usually deals with the application of well logs to oil and gas exploration. Call Elice Wickham at 303-573-2781 for reservations. Web page: <http://dwls.spwla.org/>.

Rocky Mountain Association of Geologists (RMAG) Reception at 11:30 a.m., lunch at 12:00 p.m., talk at 12:30 p.m. Reservations are taken by recording at 303-623-5396 until 10:30 a.m., Wed. before the luncheon. Cancellations are taken until 11:00 a.m. on Wed. at 303-573-8621. Luncheon cost is \$20 payable to RMAG at the door. Reservations are not required for talk only—cost is \$3. Meeting location: Denver Petroleum Club, Anaconda Tower, 555-17th St, 37th floor. **"Searching for Overpressured Frontier Gas in the Washakie Basin, or Geochemistry, the Next Exploration Tool,"** October 4th the speaker will be Roger Dickinson, a Consultant. **"The Lyden Delimma!"** October 18, 2002 the speaker will be Stephen Krajewski, Minerals Division, Industrial Ergonomics, Inc., Arvada, CO.

University of Colorado at Boulder, Geological Sciences Colloquium Wednesdays, 4:00-5:30 p.m., Rm. 180. Refreshments at 3:30 p.m on the 3rd floor. For info., call 303-492-8141. Web page: <http://www.colorado.edu/GeolSci/>. **Integrating soils and geomorphology in mountains—examples from the Colorado front range and New Zealand**, October 2, Peter Birkeland, University of Colorado

Friends of Dinosaur Ridge; 7:00 pm at Red Rocks Elementary School in Morrison, CO. Join now. Web page: <http://www.dinoridge.org/>.

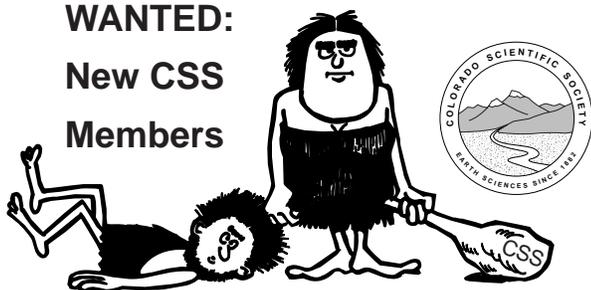
Colorado School of Mines, Van Tuyl Lectures Fridays from 3:00PM to 4:00PM in Berthoud Hall room 108: Oct 4, **Front Range Geologic Hazards**, David Noe, Colorado Geological Survey. Oct 11, **Near Misses, Red Flags, and Rediscoveries**, Steve Sonnenberg, EnCana. Oct 18, **Estimating Aquifer Recharge at Regional Scales Using GIS and an Integrated Watershed Model**, Dr. Robert Prucha, Integrated Hydro Systems, LLC, Golden. Oct 25, **North America Dynamics and Western U.S. Tectonics, with a Focus on the Southern Rocky Mountains**, Gene Humphries, Prof, University of Oregon. Web page: <http://www.mines.edu/academic/geology/calendar/vantuyl.html>

For a constantly updated, online geo-calendar, visit the Colorado Geological Survey at <http://geosurvey.state.co.us>

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

<http://www.coloscisoc.org>

**WANTED:
New CSS
Members**



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