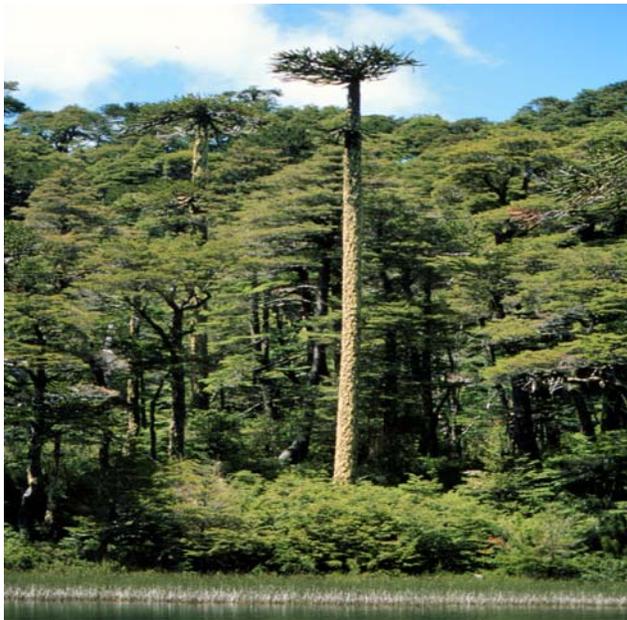




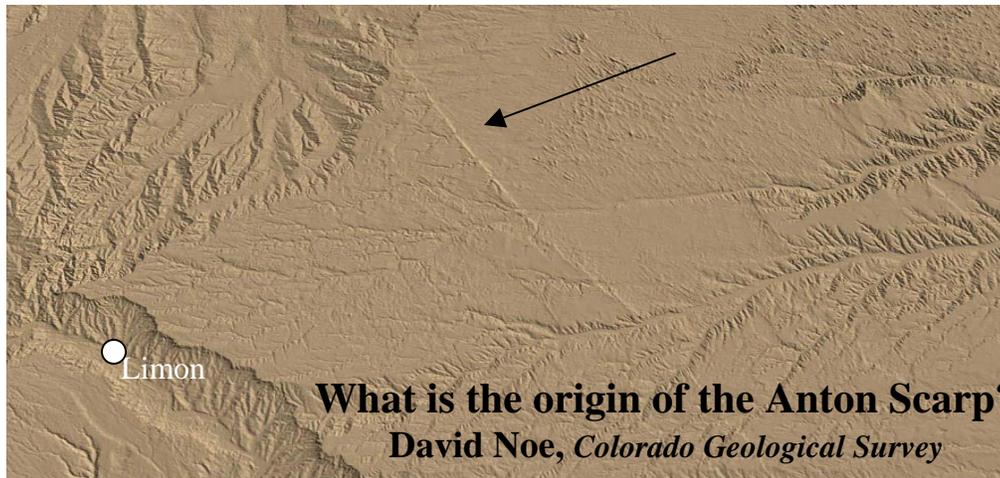
Colorado Scientific Society

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



**Monkey puzzles and
parking lots:
Why every Mesozoic
landscape you have ever seen
is wrong**

**Kirk Johnson, *Denver Museum of
Nature and Science***



What is the origin of the Anton Scarp?
David Noe, *Colorado Geological Survey*

Thursday, May 19, 2005
American Mountaineering Center
710 10th St. (NE corner with Washington), Golden
Social half-hour – 6:30 pm. Meeting time – 7:00 pm.

Abstract

Monkey puzzles and parking lots: Why every Mesozoic landscape you have ever seen is wrong.

By Kirk Johnson, Chief Curator of the Denver Museum of Nature and Science

Many paintings of dinosaurs look the same. Three elements that reoccur are the central spectacular dinosaur(s), a distant stand of conifers, and a foreground of pounded brown dirt. Did the Mesozoic really look like this? Probably not. Are we the collective victims of an artistic/scientific conspiracy? Certainly not, but several repeated biases have resulted in an iconography of dinosaur landscapes that loves the animal but hates the place.

How do you reconstruct an extinct landscape? What covers the ground in a world

before grass? Kirk Johnson has worked with painters and sculptors to reconstruct many prehistoric landscapes for the Denver Museum of Natural History's award-winning Prehistoric Journey exhibit, the Ancient Denvers Project, and a new project to place ten large paintings of Ancient Colorado in the Colorado Convention Center later this year. In this talk he will explore the techniques of combining science and art to create credible and beautiful ancient landscapes.

Abstract

What is the origin of the Anton Scarp?

By David Noe, Manager Special Ops, Colorado Geological Survey

Colorado's High Plains consist of a broad expanse of Miocene and younger sediments that dip gently eastward into Kansas and Nebraska. This young surface is not completely flat, however. East of Fort Morgan and Limon, the surface appears to be offset into many topographic horsts and grabens. The area is crossed by numerous lineations and scarps between high and low areas, many of which have a NW-SE orientation. The largest of these scarps, informally named the Anton scarp, is at least 95 miles long and up to 65-80 ft high. During 2004, the Colorado Geological Survey (CGS) and its research partners conducted different types of field investigations in order to assess the origin, age, and evolution of this feature, including the possibility that it was formed, at least in part, by faulting.

At the main study site, 7 miles northeast of Anton, the scarp is 80 ft high, about 1,350 ft wide, and has a maximum slope angle of seven degrees. Fieldwork included scarp profile measurement, GPR and refraction seismic surveys, trenching and trench wall logging, sampling for C14 and optically stimulated luminescence (OSL) dating, and

borehole drilling and core logging. A 600 ft long, 15-20 ft deep trench was dug down the scarp. This trench exposed 72 ft of stratigraphic section, almost all of which dips gently to the west and thus is truncated by the scarp. No direct evidence of faulting was found in the trench. Continuous cores of up to 12 m deep were drilled along the trench and to the east, within a closed depression, to extend the depth and lateral extent of lithofacies correlations.

Another site that was investigated was a trench for a 36-inch, natural gas pipeline, located 11 miles southwest of Akron. Where the pipeline trench crossed the Anton scarp, a steeply dipping, organic-rich, extremely heavily burrowed zone that may represent a biologically modified fault zone underlies the base of the scarp.

The two trench investigations allowed CGS an unprecedented opportunity to observe and describe near-surface lithofacies relationships beneath the High Plains. Of particular interest is the "algal limestone" in the Ogallala Formation, which may prove to be an important mapping unit because of its limited vertical and lateral extent.

Colorado Scientific Society President's Note—May 2005

By Vince Matthews

Last month, CSS lost one of its esteemed members, Dr. Reuben J. Ross, USGS Emeritus. Rube served as President of the Society in 1962 and initiated our Emmons Lecture Series, which is a highlight of our annual activities. He was a noted paleontologist and geologist.

Rube was also known for his great enthusiasm about everything. Rube and I flew together from Denver to a GSA meeting in Reno. He said that he wanted to visit Harrah's famous car museum and was trying to figure out how to get out there. I offered to take him out in my rental car. What an enjoyable afternoon! Rube was like a

paleontologist in an Ordovician conodont store. We would come to a 1914 something or other, and he would exclaim, "Dad had one of those." And, launch into a fascinating dissertation on its features. He had an amazing knowledge of many of the cars.

Karen Houck, a professor at CU Denver, reported that she had a student who took two of her courses because he lived next door to Rube. The guy's profession was computers, but Rube's enthusiasm was so great about geology that it motivated him to take the courses. Let's always remember Rube's lesson: passion about geology, people, and life is what makes it worth living.

Reuben J. Ross, Jr. July 1, 1918 -- April 5, 2005



Friend, congenial colleague, teacher, raconteur, bon-vivant, passionate activist for Ordovician causes – these words describe Rube Ross who died on Sunday, April 5 after several years of declining health.

Rube was born in New York City, received a B.A. from Princeton in 1940 and immediately began graduate study at Yale. This was interrupted by service in the U. S. Army Air Force from 1941 to 1945 during which time he rose to Lieutenant Colonel and received a Bronze Star. He completed

an M.S. at Yale in 1946 and received his Ph.D., also from Yale, in 1948. From 1948 to 1952 he was an Assistant Professor in the Department of Geology at Wesleyan University in Connecticut. From 1952 to his retirement in 1980, he was the Ordovician specialist in the Paleontology and Stratigraphy Branch of the USGS, based at Denver, with special paleontological focus on trilobites and brachiopods.

Rube made significant contributions to Ordovician stratigraphy, particularly in the Great Basin in Nevada. He was an active member of the Ordovician Subcommittee of the International Stratigraphic Commission where he was Secretary from 1974 to 1976 and Chairman from 1976 to 1980. From 1972 to 1982, he was Correlation Charts Editor and produced several international correlation charts of the Ordovician System for the International Union of Geological Scientists, including his own on the Ordovician System of the United States (1982). He also led five major international field trips between 1965 and 1986 to demonstrate the Ordovician stratigraphy of the Great Basin, and many more informal trips for specialists interested in his rocks.

Following USGS retirement, Rube accepted an appointment to teach at the Colorado School of Mines as a half-time Professor (and later Adjunct Professor), offering courses in Paleontology and Stratigraphy. His vibrant and dynamic personality, coupled with an interest in young people and new ideas, attracted and stimulated students. During this time, he received NSF support for his research and for four student theses on the Lower Ordovician Whiterockian of Nevada.

Soon after arriving in Denver, Rube became active in the Colorado Scientific Society where he was Vice President in 1961 and President in 1962. Several enduring activities were initiated under his presidency, most notably the annual S.F.Emmons Lecture, and the Past-President's annual award for the best paper presented at the monthly technical programs. He became an Honorary Member of CSS in 1984. In the 1993 History of CSS, three genera are listed as named after Rube: *Rossoceras* Flower, a cephalopod; *Rossaspis* Harrington, a trilobite; and *Rossodus* Miller, a conodont.

Rube was also an active participant in monthly meetings of an informal geology study group in Denver that consisted of members from industry, academia, and government. His knowledge of the Ordovician was a valuable asset in discussions about the discovery and development of natural resources from these Early Paleozoic rocks.

In 2000, Rube received the Outstanding Scientist Award from the Rocky Mountain Association of Geologists. For many years, Rube was also an important supporter and Research Associate of the Denver Museum of Nature and Science.

The photo accompanying this article, taken in 1965, shows Rube as many of us remember him. His joy of life and love of the field were infectious. One of the giants has left the scene.

Prepared by A. R. (Pete) Palmer and R. J. Weimer

Upcoming Field Trips

May 14—Spanish Peaks, Brian Penn, trip leader
[Tentative schedule for trip with stops:](#)

- 8:00 Depart Lakewood
- 10:30 Huefano Butte
- 11:30 Walsen Crag
- 12:30 Lunch Walsenburg
- 13:30 Big Dike/Little Dike
- 14:30 Addreatta Ranch
- 15:30 Profile Rock / Devil's Stairsteps
- 16:30 Cuchara Pass/LA46 and/or return to Denver
- 19:00 Arrive Denver



Meeting place: Cold Spring Park and Ride, 4th and Union, Lakewood. Travel by rental van.
Cost: \$25. See registration form below.

Deadline! Registration payment must be received by May 10. See Form below.

June 11- CSS South Platte Country field trip, White Cloud Pegmatite + the 1996 Buffalo Creek fire and flood; Pete Modreski, trip leader.

A field trip to visit (1) the White Cloud Pegmatite, part of the South Platte Pegmatite District within the Pikes Peak Batholith, and (2) to see erosion, sedimentation, and ecological recovery in the aftermath of the June 1996 Buffalo Creek forest fire and flash flood. The trip will involve a 2-3 mile (round trip) hike beginning at the Colorado Trail

footbridge just south of the confluence of the North and South Forks of the South Platte River. The hike will take us partly on the Colorado Trail, off-trail down a steep 400' hillside, and downstream along the wide gravel bed of Spring Creek.

Meeting places for car-pooling will include (1) Cold Spring Park and Ride, Lakewood; (2) Pine Junction, on U.S. 285 at State Highway 126.

Cost : \$8. **See registration form below.**
contact: phone 303-202-4766, email pmodreski@usgs.gov

Register for CSS Spanish Peaks field trip—Saturday, May 14

Name: _____

Phone: _____ E-Mail: _____

Bring appropriate clothing, lunch, and water.

Number of Participants: _____ @ _____ \$25 a person Travel will be by rental van.

Total for all attending: \$ _____

For registration, send this form and your check made out to Colorado Scientific Society to Emmett Evanoff, Department of Earth Sciences, University of Northern Colorado, Greeley, CO 80639

Payment must be received by May 10.

Register for CSS South Platte field trip—Saturday, June 11

Name: _____

Phone: _____ E-Mail: _____

Bring appropriate clothing, lunch, and water.

Number of Participants: _____ @ _____ \$8 a person

Total for all attending: \$ _____

For registration, send this form and your check made out to Colorado Scientific Society to Emmett Evanoff, Department of Earth Sciences, University of Northern Colorado, Greeley, CO 80639

Science News

A new geology course, entitled, *Geology of the National Parks*, will be offered next fall semester, 2005, at both Metro State College and CU Denver on the Auraria Campus. This 3-credit introductory course is intended for a diverse audience, with or without a science background. At Metro, the class

will meet M-W at 7 p.m. to 8:15 p.m. ; at CU, the class will convene on alternate Fridays, from 9 a.m. to 4 p.m. At least one field trip is planned for Rocky Mt. National Park. For more information, please contact Dr. John Lufkin, 303-562-5075

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Chuck Weisenberg and Duff Kerr of CSS judged the **Colorado State Science Fair** April 7, 2005. The following are winners of the Colorado Scientific Society special awards:

A fine study of an enigmatic fault (?) Scarp in SE Colorado

### *Senior division*

### *Junior division*

**First prize:** Kristyn Rodzinyak; 12th grade, \$100; Rampart High School; Crater Characteristics: Water on Mars?

**First prize:** Alex Proietti; \$75; 6th grade, Holy Family Catholic School; Who Cracked the Gas? Curious about well fracturing, she researched the subject and made simple working models; amazing job by a 6th grader!

Kristyn experimented with different materials and water content to study crater formation

**Second prize:** Gwyneth Glissmann; \$50; 8th grade, Peak to Peak Charter School; A 21 st Century Problem: Carbon Dioxide. She studied various issues regarding CO2 in the environment.

**Second prize:** Tyler Benton; \$75; 12th grade, Stratton High School; Investigating Surface Geology of the Anton Scarp Formation.

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WANTED

Retired, or working for that matter, men and women who could listen to students give their Walk Through Time speeches and critique the kids. Contact: Beverly Meier 303-466-2387

Beverly.meier@bvsd.org
When: May 19, 8:30 AM - 3:30 PM.
Where: Broomfield Heights Middle School.
1555 Daphne Street, Broomfield

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## Job Opening

The Department of Geology and Geological Engineering at Colorado School of Mines invites applications for an anticipated position as **Lecturer**. Colorado School of Mines presents a course in Earth and Environmental Systems to 900 first year engineering students each year. The course is taught by various, experienced faculty in six lecture

sections (4 fall, 2 spring) of 150 students each and 30 lab sections of 30 students each. For further information about this position, contact Greg Holden (303)273-3855, or Wendy Harrison [wharriso@mines.edu](mailto:wharriso@mines.edu) ASAP. It is anticipated that the position will be filled by May 15, 2005.



# Earth Science Meetings and Talks

*Newsletter items must be received by the 25th 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 American Mountaineering Center 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 Vince Matthews at 303-866-3028 or [vince.matthews@state.co.us](mailto:vince.matthews@state.co.us)



**Denver Mining Club** meets every Monday (except when noted) at Country Buffet near Bowles and Wadsworth (at 8100 W. Crestline Ave.) 11:30-1:00. May 23, Frank Erisman, "Recent mining law developments in Colorado". <http://china-resources.net>.

**Denver International Petroleum Society** meets the second Friday of each month at the Wynkoop Brewing Co., 18th and Wynkoop Streets. Reception begins at 11:30, luncheon at noon, program at 12:30. 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.

**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. May 2, Declan Costelloe, "Financing gold projects, the challenges". For information contact Jim Piper, (303) 932-0137, or the website <http://www.dregs.org>. May 15-18, Geologic society of Nevada symposium, "Window to the world", Sparks Nevada. [www.gsn2005.org](http://www.gsn2005.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 Eleice Wickham at 303-573-2781 for reservations. Web page: <http://dwls.spwla.org>.

**Rocky Mountain Association of Geologists (RMAG)** Reception at 11:30, lunch at noon, talk at 12:30. 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 is \$20 payable to RMAG at the door. Talk only (no res)—cost is \$3. Location: Denver Petroleum Club, Anaconda Tower, 555-17th St, 37th floor. May 6, Randi Martinsen, "New insights into the Cretaceous interior seaway" Web page: <http://www.rmag.org>

**Rocky Mountain SEPM** Reception at 11:30, lunch at noon, speaker at 12:30. Reservations, Dave Uhl:303-389-5092 before noon of preceding Friday. \$15.00 lunch, \$3 talk only. Wynkoop Brewing Company, 1634 18<sup>th</sup> St., Denver. [David.uhl@EnCana.com](mailto:David.uhl@EnCana.com).

**Co-AIPG** 11:30-social, noon-1:30-lunch and speaker. Cost-\$25. University Club, 1673 Sherman St, Denver. Reservations: Tom Cavanaugh, 303-458-5550, [tcavanaugh@ascg.com](mailto:tcavanaugh@ascg.com). May 3, Kathleen Curry, state representative, "Current Water Legislation in the Colorado General Assembly."

**University of Colorado at Boulder, Geological Sciences Colloquium** Wednesdays, 4:00-5:30, Rm. 180.Refreshments at 3:30 on the 3rd floor. 303-492-8141. Web page: <http://www.colorado.edu/GeolSci>.

**Colorado State University, Dept of Geosciences**, Rm 320 Natural Resources Bldg, 4:10 pm. 970-491-5661. <http://www.cnr.colostate.edu/geo/seminars/spring2005.html>

**Friends of Dinosaur Ridge.** Web page: <http://www.dinoridge.org>. Admission is free, but donations are welcome. For more information contact the FODR Visitor Center at (303) 697-3466.

**Colorado School of Mines, Van Tuyl Lectures** Fridays from 3:00-4:00 in Berthoud Hall room 108. <http://www.mines.edu/academic/geology.html>

**USGS Geologic Division Colloquium.** Thursdays, 1:30, Foord Room, Building 20, Denver Federal Center. May 5, Geoff Plumlee and Terry Boyle, "Environmental Consequences of Mining, Marinduque Island, Philippines". Contact: Peter J. Modreski, U.S.G.S. 303-202-4766, email [pmodreski@usgs.gov](mailto:pmodreski@usgs.gov).

**Western Interior Paleontological Society**, Ricketson Auditorium, Denver Museum of Nature and Science, 7 p.m. Free. May 3, Karen Chin, "The paleobiological implications of vertebrate coprolites" [www.wipsppc.com](http://www.wipsppc.com) or call 303-663-5868

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

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