

The Objective View

Newsletter of the Northern Colorado Astronomical Society

December 2005

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Cheyenne Astronomical Society, Cheyenne Botanical Garden
Christmas Party RSVP 307 635 5944 by December 17th
<http://home.bresnan.net/~curranm/>

Open House, Chamberlain Observatory, dusk to 10 pm
Dec 10, Jan 7, Feb 4, Mar 4, Apr 8, May 6 303 871 5172
<http://www.du.edu/~rstencil/Chamberlain/>

Longmont Astronomical Society
December 15 7 pm FRCC, 2121 Miller Rd
<http://longmontastro.org/>

Next Meeting: December 1, 7:30 PM

Endpoints of Stellar Evolution Drs. Steve and Irene Little

**NCAS Business at 7 PM
Nominations for Officers**

**Meeting directions Discovery Science Center
703 East Prospect Rd, Fort Collins**
<http://www.dcsm.org/index.html>

In Fort Collins, from the intersection of College Ave and Prospect Rd, head East about 1/2 mile. See the Discovery Center sign to the South. Enter the West Wing at the NE corner. From I-25, take Exit 268, West to Lemay Ave, continue West 1/2 mile, see Discovery Center on the left.

Discovery Science Center Starwatch 703 E Prospect Road, Fort Collins

January 6 6:30 pm
March 3 6:30 pm
May 5 8:30 pm

Observatory Village Marswatch 3733 Galileo Drive, Fort Collins

Feb 19 6:30 pm
April 16

NCAS Programs, Discovery Science Center

Jan 5 Randy Cunningham Astrosystems
Elections
Feb 2 Jim Bergstrom Mars Recon Orbiter HiRISE

Other Events

Little Thompson Observatory Star Night, Berthoud
December 16 7 pm Hal Levison, SWRI,
Planet Formation <http://www.starkids.org>

CSU Madison Macdonald Observatory Public Nights
On East Drive, north of Pitkin Street
Tuesdays 7:30-8:30 pm if clear, when class is in session

December 1 Program Abstract

We will review stellar evolution and describe in detail the three types of objects that stars can become at the end of their lives. These are White Dwarfs, Neutron Stars, and Black Holes. We will discuss how these can be observed.

About Our December 1 Speakers

Drs. Stephen and Irene Little have been involved in teaching astronomy to undergraduates at a variety of institutions for over 30 years. Stephen received his Ph.D. from UCLA and Irene from Indiana University. While currently retired, they still maintain a research connection with the University of Colorado in Boulder. Both Stephen and Irene have taught astronomy courses at CU including a course on Ancient Astronomies. Both Irene & Steve have published numerous scientific papers dealing with the evolution of stars and are currently involved in research in archeo-astronomy (astronomy of ancient cultures). Stephen and Irene have presented workshops for college teachers of astronomy on teaching methods and the use of telescopes and astronomical software for 5 summers at CU Boulder. At Crow Canyon Archeological Center in Cortez, CO they have given week-long programs on the astronomy of ancient cultures in the four corners area. Through the Rocky Mountain Nature Association they have presented day-long seminars on such topics as 'Highlights of Astronomy,' 'New Discoveries in Astronomy' and 'Astronomies of Native Americans'. In conjunction with Ranger Jeff Maugans they have developed an ongoing astronomical observing programs in RMNP (with NCAS' help). Since 1992 thousands of visitors have come to these sessions.

November 3 Program

Mars, a Modern Mythology

Dr. Roger Culver, Colorado State University

Mars is now near opposition and is up all night. Its eccentric orbit causes nearly 2-fold variations in the opposition distance to Earth. This time it is a relatively close 43 million miles on November 8. On its last opposition, it was brighter than Jupiter. It now looks like a celestial garnet. Early in the era of telescopes, it gave little of interest to look at. William Herschel was able to plot a few dark markings. In 1877, G. Schiaparelli mapped linear markings he termed "canali." This discovery piqued the interest of Percival Lowell, who came to believe the markings were the construct of a Martian

civilization. He came from the New England aristocracy. Lowell applied his family fortune to establish an observatory at the best observing site reachable by rail, in Flagstaff, Arizona. Lowell Observatory maintains a modern visitors center on Mars Hill, and the research site has expanded to Anderson Mesa. The telescope and blink comparator used by Clyde Tombaugh for his Pluto discovery are there. The hand drawn maps and globes of Lowell are displayed, showing his network of canals. He published and lectured the idea that the canals brought water from the melting polar caps. These provoked controversy from Lowell's time to the Space Age. Professional astronomers resisted vigorously. In 1898, H.G. Wells wrote *The War of the Worlds*. The invaders eliminated the British Army and Navy without mercy. Wells was reflecting the height of European Imperialism, routing other civilizations, but brought down by microbes, the tiniest organisms. This was the beginning of a modern mythology, the Martian Mythology. Orson Welles capitalized on it in 1938. He was a radio performer and magician, known as The Shadow. On October 30, Welles and his company adapted *The War of the Worlds* for his US audience. They convinced between 1 and 2 million people that the Martians had invaded New Jersey. Apprehension about the Depression and impending war in Europe fed the tension. The radio production has been followed by a Hollywood obsession with the planet, especially in B-movie form. Mars popped up frequently in theaters in the 1950s and 60s. Production values have improved, notably in Tim Burton's "Mars Attacks!". This year the computer game Doom brought its Martian battles to theaters. Roger was disappointed that the Spielberg update of WOTW substituted generic invaders, not tapping the tradition. Mars' two moons were found by Asaph Hall in 1877. Carl Sagan raised the idea in 1964 that they could be artificial, but they are clearly captured asteroids. The Mariner mission showed a dry, cratered surface and discouraged life-seekers. Richard C. Hoagland built a brisk business on the Face on Mars. Better resolution of MGS has made the face look like natural hills. The meteorite ALH 00084 found in Antarctica prompted debate on its evidence for organisms. Magnetite grains appeared shaped like bacteria, but were 1/10 the size of Earth organisms. Organic compounds found were not clearly biological in origin. The Martian Mythology has kept interest alive in Solar System exploration. In the competition for research support, Mars as a haven for life, past or present, has a powerful draw. Mars as known from orbiting and landing craft is looking quite a bit like Utah. There are channels implying water flow, the 70,000 foot caldera Olympus Mons, and the vast canyon Vallis Marineris. MGS imaging shows a double crater, sand dunes, and fine structure in the polar caps. These have water ice and dry ice. Both sublime in the summer. Teardrop islands look sculpted by water. There are numerous runoff patterns. There are many signs of water but the climate has changed, so not much liquid water is likely now. Nothing to date excludes subsurface life. Why should we care? Our universe can have at one extreme, one planet with life. At the other extreme is the Star Trek universe teeming with a new civilization every week. We define our place in the physical universe when we establish the status life on Mars.

**NCAS Business
November 3 2005**

President Greg Halac called the meeting to order. Discovery Science Center observing nights were announced. Observatory Village is scheduled Nov 5 for public observing of Mars.

Mars Image From Vern Raben, Nov 20



Mars last evening was amazing, both through the eyepiece and on the computer screen. Clear sky, no wind, low turbulence, and temperatures in the mid-thirties all helped to provide some excellent views. Atmospheric turbulence was between 7 and 8/10, as good as I've seen in Colorado. Images below taken with my usual setup, Nexstar11 on APT wedge, Baader UV/IR cut filter, Televue 5X Powermate, and Phillips Toucam 740K webcam. North up, east to the left in the image. Lots of detail visible in both the eyepiece and on the notebook's computer screen. I could not spot the south polar cap in the eyepiece, though it does just barely show in this image. North polar haze was visible. Solis Planum easily spotted in the western central region as well as the long finger of Terra Serenum extending from the east. Time of this image was 10:52 MST, so the mars central meridian was 113 degrees, diameter is 18.4 arc-seconds, illuminated fraction is 98.9%. Mars is decreasing in size quite quickly now, an arc-second or so per week. Vern



2006 Texas Star Party - Sign up Now!

The great tradition of dark sky observing continues with the 28th Annual TEXAS STAR PARTY, April 23 - 30, 2006!

TSP WILL NOT BE MAILING A FLYER this year, so keep this e-mail or print it out!

1. You should submit a Registration/Reservation Request Form to ENTER THE TSP DRAWING before January 14, 2005. This will provide you the highest possible chance of being selected as one of the 700 people who will be able to attend TSP this year.

<http://www.texasstarparty.org/draw.html>

or fill out the Request Form immediately at:

<http://www.alphadata.net/cgi-bin/forms/forms.cgi?form=3>

READ THE REST OF THIS E-MAIL BEFORE SUBMITTING YOUR REQUEST.

2. Participants at the TEXAS STAR PARTY can select from a variety of accommodations on the Prude Ranch, including bunkhouses, private cabins, trailer hookups, and campsites with convenient bathhouses. All accommodations include access to a TV lounge, a western-style dining room, and an indoor swimming pool. And of course the convenience of the observing fields!

For rates and more information on ranch and nearby accommodations please visit:

<http://www.texasstarparty.org/travel.html>

3. The TSP Registration Fee (DOES NOT INCLUDE your accommodations) is \$50/person if you preregister before March 25, 2006. (Each additional family member is just \$30 more.) For more information about TSP Registration rates and policies, visit:

<http://www.texasstarparty.org/tspreg.html>

The drawing for names is in late January, and if your name is drawn you will get a TSP Registration Form (and optional Prude Ranch Reservation Form) to send in with your payments in February/March.

SIGN UP NOW!

Questions? Visit our website:

<http://www.texasstarparty.org/>

We look forward to seeing you next April!

Sincerely,
Volunteers for Texas Star Party

Best Looks

Moon By Venus 12/4
by Mars 12/11, 12/12; Near Saturn 12/18
Occults Spica 12/25 d 0630, r 0730
by Jupiter 12/26 and 27
by Mercury 12/29

Mercury Low in SE all month
Venus SW at dusk
Mars Shrinks from 17" to 12", best early in month
Jupiter In SE predawn
Saturn High in middle of night. By Beehive cluster
Uranus In Aquarius, evenings
Neptune In Capricornus, evenings

Gemind meteors are obscured by moonlight Dec 12-13

From: Dan Laszlo
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TO: