

The Objective View April 2005

Newsletter of the Northern Colorado Astronomical Society

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Next Meeting: April 7 7:30 PM

NASA: Changes Ahead
Dr. Andrea Schweitzer

NCAS Business at 7 PM
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.

NCAS Programs
May 5 Tom Fay, Internet Resources for Astronomy
June 2 James Green, HST, the End Game

NCAS Dark Sky Star Party Dates
April 8, 9, 29, 30

Cactus Flats site is on undeveloped parcel of prairie about 6 miles West of Briggsdale. Take Colo Hwy 14 East from I-25 (Exit 269). Go 19 miles East to Ault. Continue 18 miles East of Ault. At County Rd 65 (Milepost 170), turn North, go one mile. Site is through the wire gate on the right, no road, close gate and set up. Beware of the cactus. The site is now officially wheelchair accessible, but there are no facilities so bring essentials. Call **Tom Teters**, tomt@starmon.com, with questions about star party status or dates, 482-5702.

Starwatch at Discovery Science Center
703 E Prospect Ave, Fort Collins
April 15 7:30 pm

Dates for Rocky Mountain National Park 2005
June 10, 17; July 1, 15, 29; Aug 12, 26

Other Events
Little Thompson Observatory Star Night, Berthoud
April 15 Dr John Spencer, Cassini-Huygens
<http://www.starkids.org>

Cheyenne Astronomical Society
April 15 7 pm Cheyenne Botanical Garden
<http://home.bresnan.net/~curranm/>

Open House, Chamberlain Observatory, dusk to 10 pm
Apr 16, May 14, Jun 11, Jul 16 303 871 5172
<http://www.du.edu/~rstencil/Chamberlin/>

Longmont Astronomical Society
April 21 7 pm 550 Coffmann St
<http://longmontastro.org/>

About our April 7 Program

Great changes are in the works for NASA. A change of NASA Administrator, the new Vision for Space Exploration announced by President Bush, and changes for some of NASA's most important projects: Hubble, the Space Shuttles, and the International Space Station. Andrea Schweitzer will give an insider's view of what is happening at NASA.

About our guest speaker:

Andrea Schweitzer is an astronomer with the Little Thompson Observatory in Berthoud. Andrea grew up in Longmont and received her Ph.D. in Astronomy from the University of Wisconsin. She has authored/co-authored a dozen astronomy articles, helped test one of the cameras for the Hubble Space Telescope, and her research has been written up in publications ranging from the Longmont Times-Call to the New York Times, and Sky & Telescope Magazine. Andrea works from Fort Collins as a consultant for NASA business and for astronomy education. Her clients include NASA Headquarters, Boeing, the Southwest Research Institute and the Space Science Institute.

Dorothy Pillmore, 1918-2005

Dorothy Erna Beetle-Pillmore, born Nov. 19, 1918, in Jersey City, N.J., passed away on March 13, 2005, in Fort Collins.

Dorothy grew up in Lyndhurst, N.J., the oldest of six children born to Mamie and William Schoof. In her early years, she developed a lasting interest in natural history and astronomy, participating in a junior astronomy club at the American Museum of Natural History. She received a Bachelor of Arts degree in paleontology at the University of California in Berkeley, where she married Alan Beetle, Ph.D. In 1940, they moved to Davis, Calif., the birthplace of their children, Howie and Karen. They moved to Laramie, Wyo., in 1946, where Dorothy completed her master's degree in botany. During her lifetime, Dorothy developed a scientifically valuable collection of land and freshwater snails, which she later donated to the Field Museum in Chicago. Following a divorce in 1963, Dorothy took a job in Charlotte, N.C., at the Children's Nature Museum, where she became the director of the planetarium. Subsequently, she directed planetariums in Newport News, Va., Cincinnati, Ohio, and Columbus, Ga., retiring in 1984. Following her retirement, she moved to Colorado, where she volunteered in the mollusk collection at the University of Colorado. In 1986, Dorothy remarried to Richard Pillmore, a retired research biologist and bird carver that she had met at a scientific convention in 1957. Their original shared interest in snails expanded over the years to include participation in the Rocky Mountain Senior Games in swimming, attending Elderhostels all over the United States, traveling, chasing total eclipses, camping and snowshoeing. She is survived by her husband, Richard; her daughter and son-in-law, Karen and Richard Kline, of Pavillion, Wyo.; two grandsons, David and Garrett; a sister, Helen Borgeson; and four brothers, Howard, Richard, David and Robert Schoof. Over the years, Dorothy has remained an active member in several astronomical societies and was voted a lifetime member of the Northern Colorado Astronomical Society. She has been a member of Sigma XI, an honorary scientific society, since 1948. She has belonged to the American Association of Variable Star Observers, the Royal Astronomical Association of Canada, the Conchological Society of America and the American Malacological Society, where she was a newsletter

editor for 10 years. She has been a longtime member of the Unitarian Church.

From Gary Garzone: Sterling Star Party April 7, 8, 9

Date: 02/13/05 15:41:44

To: LAS members

Subject: [LAS] Sterling Star party April 9th

Hello dark sky Astronomers, We have all agreed on new moon weekend of April 7, 8, 9th as the official dates for the North Sterling Reservoir Star Party. N.Sterling park ranger, Bob Loomis has done us good deal again with Free camping, just state park pass, 5 dollars is asked of us. I like this place for a star party, it can handle lots of people. It is early in the year but we will take the chance for good weather. This is the first of the summer months star parties. I hope lots of people can make it out once again. The last of the dark sky places left in America await those who do the drive. Very nice setting on top of bluff overlooking 3000 acre lake and trails around place. Bath house with hot showers will be open also. I will attach Bob Loomis e mail to LAS and me. I plan to do all three nights if at all possible,. My old motto." have scope will travel", see you in the dark. later, Gary

March 3 Program

Innovations in Equipment for Astronomy

Jim Burr

Phillip Knox was the source of inspiration for Jim Burr, who now lectures over 100 times a year to promote astronomy. His business in award-winning telescopes developed on the side, while he worked in development and support of satellite TV systems. The "mobile" in JMI is for mobile TV. When he started, a satellite dish needed 3000 pounds of concrete and iron. He invented a single post support for dishes, and a single-arm feedhorn, which cut the cost of the antenna structures in half. In 1986 he was put on a retainer, to do projects. JMI was formed to generate some mad money for telescopes. He made a 10 inch f/15 telescope. The image wiggled badly when focusing, so he added a motor which did not shake the image. The current motor for SCTs required owners to drill their fork, which many owners resisted. Jim designed a snap-on coupling which the market embraced. Hundreds were sold. Wheeley Bars allow SCT owners to easily roll their assembled scopes out for viewing and have been very popular. He is most pleased with the success of the NGT-18, which rides on a low, split-ring equatorial mount. It has been recognized internationally for design, receiving a Rolex award. Since it can not be readily computerized, it has been discontinued. Over 200 were sold. He has indulged in aperture fever, making scopes with up to 40 inch primaries. He has contracted with NASA to make four 30 inch scopes to send modulated laser signals to the Mars Science Laboratory, due in 2009. He enjoys camping with his company at Kenosha Pass. Binocular telescopes are his current passion. Contrast is improved by 40% by using both eyes. He went through many iterations with the 6 inch reverse binoculars. Motors on a pad control focus, intraocular spacing, and primary collimation. Erecting prisms may be used. He likes Parks Gold Eyepieces for good views at reasonable cost. 24mm Panoptics give exceptional fields. Click-stop zooms get stiff at night, so they get difficult to adjust. Ten and sixteen inch binoculars have been designed. The 10 inch will fit through any door and is in production. Staff at a UFO convention were salivating over the possibilities. Jim showed a prototype 12 inch which can be used in alt-az mode, or tipped on a wedge and polar aligned. He continues to improve their Crayford focusers, and is producing space-efficient, high quality cases. He encouraged amateurs to show loyalty to innovative companies so they can advance their R&D. He closed with a gallery of Hubble Space Telescope images. Jim marvels at the Universe which has been created.

NCAS Business, February 3 2005

President Greg Halac called the meeting to order. He announced the Sterling Star Party for April 7, the Grand Mesa Star Party June 10-12, the CSAS Star Stare in July and Weekend Under The Stars at Foxpark Wyoming August 4 to 7. He proposed sidewalk astronomy in Fort Collins by club members. The treasurer's report was given by Nate Perkins. Observing in Rocky Mountain National Park start soon in June, July and August 2005.

Observing Report from Cactus Flats North, from Mike L

Hi Everyone,

In case anyone is interested in hearing it, here's a report on the Messier Marathon I attempted Friday night with some friends at Cactus Flats. I'm pretty new to astronomy, so I used a Meade LX200 SCT "go to" scope for it. I know that it's considered "cheating" by some people to use a go to scope for a Messier Marathon, and I know that Messier Marathons aren't even "real" astronomy. I just thought that it would be fun to see all those objects in one night anyway, and it was! The friends who participated in the marathon with me were Jim Adams, who's also a BASS member, and Shane Rea. Also, Bill Travis was kind enough to hang out with us off and on until almost midnight, too, and he helped us identify a few of the objects. Thanks, Bill!! Altogether, we managed to see 105 or 106 of the 109 Messier Objects. (Apparently, M102 is the same as M101, according to a recent article in Sky and Telescope, so the total number of Messier Objects is 109.) We started as soon as it was dark enough to see anything, and there were some clouds to the west, but we eventually picked up all the Messier Objects in the western sky through holes in the clouds except M74, unfortunately. Working our way from the west to the east horizon, we were able to see about 70 objects by the time we went to bed at 1:30 a.m. Vern Raben was just leaving about that time, too. We dragged ourselves out of bed at 3:30 to start looking for the rest of the objects. We knew ahead of time that we wouldn't be able to see M30 because it was rising just before sunrise, but we weren't able to see M73, either, because it was too light when we were trying to find it near the eastern horizon, unfortunately. Jim was able to see M72, which was near M73, so he saw a total of 106 objects, but Shane and I weren't able to see M72, so we saw 105 altogether. Anyway, it was a lot of fun even though there was some wind and blowing dust at times. I'd definitely like to try it again, and hopefully I can see all 109 of them in one night. We learned a few tricks that will help us be a little more efficient next time.

Thanks,

Mike Luckow

Video Imaging of Galaxies from Cactus Flats

You may view the images at <http://raben.com/astrovid>

Here are some images from last Fri night at Cactus Flats. As noted in previous posts, conditions were pretty marginal with 5-20 mph wind, variable cloud cover, and fair turbulence (found a couple loose bolts on my tripod when I got home). All images were taken with Stellacam2 video camera at 3/4 gain, integrating 128 frames.

Clear, steady, dark skies for all,

Vern Raben

Below is a shot of M63, the sunflower galaxy in Canes Venatici taken just before midnight:

M96 in Leo :

M65 in Leo:

And finally M66 in Leo:

Oregon Dark Skies, from Dan LaFaive

Hi all,

Earlier in the month, I had the opportunity to visit the ultra-dark skies in the area of Steens Mountain in South-Eastern Oregon on my way to see my sister in Seattle. Steens Mountain is the former site of the Oregon Star party and is said to have the least light polluted and most transparent skies in the lower 48 states. I couldn't actually go up the road to the former star party site because it is closed in the winter, so I

spent a night (March 6-7) about 30 miles west of Steens off of a gravel road. While the Western side of Oregon gets a lot of cloudiness and moisture, the eastern side tends to be much drier. In fact, there's a desert in the rain shadow of Steens mountain. The area around the mountain gets about 300 days of sunshine a year (similar to the front range here). Anyhow, I setup scope a bit after sunset (I've got a 9 1/4" Celestron Advanced GT) and I started out by attempting to do a personal Messier Marathon (I know we're not supposed use GoTo scopes, but it's the only thing I have :), but I later abandoned that effort because I was enjoying the views too much. Skies were perfectly clear. I did manage to look at 46 Messier objects. I didn't have a list to start with. So I just started looking at objects closest to the western horizon and worked my way east. I managed to hit M39 first, then M77 and M74. Then I got hung up on M31,32, and 110 because the view was so good. I swung to the north-west and caught M52 and then swung to the south-west and peeked at M79. I continued my sweep until I got closer to Zenith and then took a look at Saturn. At 450X it was awesome! Seeing was pretty close to perfect. I also enjoyed a great view of Jupiter. My attempt at a marathon came to a screeching halt when I hit Virgo :) I've only been observing through a telescope for less than a year, so the view of 7 galaxies in my eyepiece at one time was just too enjoyable and it slowed me WAY down. Never mind trying to figure out which galaxy corresponded to which Messier object! I would do about 1 1/2 to 2 hour sessions with the scope and then take a break and just look around at the sky and horizon and try to identify objects and features with the unaided eye. Where I was at, there were only 4 artificial lights visible on the horizon. They were all 10 to 30 miles away and they were the yard-lights of ranch houses, so they just looked like stars. There was no evidence of a light dome of any kind. One of the features I looked for was the Zodiacal light and band. I could see it clearly after twilight until well into the night towards the western horizon. To give you an idea of how clear and dark the skies were, I had an interesting experience when the Milky Way in Cygnus started coming up at around 2 AM. The Milky Way was so bright that at first glance I thought I was looking at a light dome in the distance that my eyes were adjusting to. But then I realized what it was and after my next observing session, I found it to be so bright that a few clouds that appeared on the North-Eastern horizon stood out vividly, it was spectacular! I had to pack it in at about 4AM because I had a long day of driving ahead of me the next day. I do fully intend to go back to the area in the Summer or Fall of 2006, during the dry season and go up to some of the observing areas on Steens Mountain itself. If anyone gets a chance to go there, I would strongly recommend it. With good weather, you won't be disappointed. If you're looking for more information about this area:

<http://www.patch.com/astro/starsites/#steens>

http://www.or.blm.gov/steens/background/background_page.htm

Anyhow, look forward to seeing everyone at CFN this weekend. Clear, Dark, and Calm skies (CDCF),
Dan Lafaive
Ft. Collins

Archeoastronomy Sites from Orbit

From Brian Simpson:

For those of you who are interested in ancient astronomy, Space Imaging (where I work) has just released a gallery of pictures taken from space of ancient observatories.

It can be found at:

<http://www.spaceimaging.com/gallery/ancientobservatories/>

Catch a Moving Star: Periastron Passage of Gamma Vir

Observers and imagers see:

<http://myweb.tiscali.co.uk/hanwellobservatory/gammavirginis.htm>

Factors in Telescope Performance

A great article for those obsessed with crispy planet images:

<http://www.cloudynights.com/articles/damian2.htm>

Best Looks

Moon By Mars 4/3 and 4/4; by Pleiades 4/11
 By Saturn 4/15 ; Near Jupiter 4/21 and 4/22
Mercury Difficult in SE predawn last week
Venus WNW at dusk end of month
Mars Low in SE at dawn. By Neptune 4/13
Jupiter In S in middle of the night
Saturn High in W early evening

Lyrid Meteor Maximum April 22 at 5 UT

Ten to 20 meteors per hour expected at best, but compromised this year by the gibbous Moon

Penumbral Lunar Eclipse Max April 24 at 0355 MDT

Some weak shading may be visible in the hour before and after mid-event.