Congrats to LAS member Robert Arn, with the picture of the day for spaceweather.com – his nicely taken “aurora over Pawnee Buttes” on May 18.

Longmont Astronomy Society Newsletter
June 2013

From the President:
LAS Members,

As often is the case in summer, the past month has flown by. Many things are going on.

With the warmer weather, the star party season is in full swing. I and several LAS'ers attended the Rocky Mountain Star Stare a couple of weeks ago. As usual, the Colorado Springs group did a fantastic job organizing the event. We had 2.5 nights of good observing out of the 4 that were scheduled. Good dark skies were enjoyed by all.

The star parties at Rocky Mountain National Park have also started up. Last Friday about 15 amateur astronomers showed up to show the skies to ~100 guests. The observing field in Upper Beaver Meadows is has gorgeous views before sunset and can be very dark after the sun goes down. If you are interested in participating, you can contact Cynthia Langguth at: Cynthia_Langguth@nps.gov

As you probably know the annual Fox Park star party has been cancelled again this year due to forest service regulations and high insurance costs. I hear tell some folks are trying to find a replacement by going to Colorado's "State Forest State Park". We'll keep you posted on the LAS email list on how that develops.
Our meeting this month will feature LAS member Andrew Planck. He will be talking on the history and use of the astrolabe, an ancient instrument used for all manner of calculations. This is from Andrew:
"The astrolabe is a device that I consider to be one of mankind's greatest and most complicated achievements. It boggles my mind that mere mortals were able to create a device that, after sighting on a bright star or the Sun, could give you (among many other things) the time of day or night, the times of sunrise/sunset for any date, the rise and set times for any bright star, the azimuth of the exact point on the horizon where the Sun and bright stars will rise and set, the time of culmination for the Sun and bright stars, the length of any day, the R.A. and dec. of any bright star, local sidereal time, the times of civil, nautical, and astronomical twilight, and a host of other et ceteras."

Sounds pretty cool and worth learning more about.

The Constellation of the Month will be by Jim Elkins. He is gong to talk about the constellation Libra.

See you there.

Bill

In the sky this month:
Meteor Showers – Delta Aquarids, July 30 peak and 2 weeks either side. 15 meteors per hour, but from the south for a change.

The ISS is making several nice passes from June 18 to June 25 at decent times in the evening. Go on the http://heavens-above.com website for details and times.

Planets (times for July 10)

Mercury: switching to morning, but now until July 24 or so, rises 5:53
Venus: still the pride of the western sky, sets about 10:00
Mars: in the mornin, rises 4:05
Jupiter: finally coming into view in the eastern sky at sunrise July 5, rises 4:31
Saturn: still high in the south at dusk, but moving west finally, sets 1:26 AM

For those of us in the Northern Hemisphere, June offers the shortest nights of the year. This month's solstice occurs on the 21st at 1:04 a.m. EDT. Astronomically speaking, that's when summer begins in the Northern Hemisphere and winter in the Southern Hemisphere.

In early June, if you've got a clear view toward the western horizon, you'll see something of a planetary traffic jam just above the sunset point. Jupiter is spending its very last days in the evening sky, but Venus is rising to take its place. And Mercury is making its best evening appearance of the year.

During June, Saturn is positioned between Spica to its west and the two brightest stars of Libra: Zubeneschmali (labeled β) and Zubenelgenubi (labeled α).
Sky & Telesope diagram
Meanwhile, there's another bright planet in the sky, and that's Saturn. To find it, face the direction of sunset and then make a generous left turn, to face south. You'll see two bright stars about halfway up. They're separated by about the width of your fist with your arm outstretched. The brighter one, on the left, is Saturn.

Current Extra-solar Planet count: 871 confirmed, 3284 candidates. The reaction wheel problem on the Kepler telescope continues, and the probe is in a hibernating mode.

Interesting Stars/Galaxies

Club Calendar: Meeting July 20 at 7:00, door 4 at FRCC, which should be in session.

Fiske Planetarium: Admission costs $3.50 for kids and seniors and $6 for adults
Still closed for remodeling, and slated to open in the fall. Maybe a meeting there?

Internet Resources:
Harvard College Observatory is digitizing its famed collection of more than 500,000 glass sky-survey plates and has just released the first data set.
Examining the plates the old-fashioned way is fun at first but slow, and for a large project it becomes massively time-consuming and tedious. We expect better in the digital age. So Doane leads me yet another level deeper, to the basement, for the tour's grand finale. In what looks like a darkroom, Assistant Curator David Sliski carefully places a plate on a digital scanner that's slowly working its way through all 500,000. Built under the guidance of Bob Simcoe of the Amateur Telescope Makers of Boston (ATMoB), the instrument is specially designed for high-precision scanning. It measures the position on the plate of each tiny star speck to half a micron, and measures its brightness with an average uncertainty of 0.1 magnitude. The finished project will amount to a petabyte (1 million gigabytes) of data
The project is called the Digital Access to a Sky Century at Harvard (DASCH). In early May it released its first dataset. After years of development, followed by scans of more than 45,000 plates (most of them during the last two years of "production scanning"), anyone can now access a 100-year light curve of any bright object within 15° of the north galactic pole. This data release also includes test fields elsewhere: around the quasar 3C 273, the Beehive open cluster (M44), Baade's Window near the galactic center, the field of the Kepler planet-hunting mission, and the Large Magellanic Cloud.
The first data release (DR1) covers the area within 15 degrees from the north galactic pole, plus five additional regions.
A typical star of blue magnitude 12 or 13 offers a light curve of about 1,500 points. Astronomers have already discovered a new type of stellar variability, long-term dimming of a certain type of giant star, and much more. The century of data allows researchers to detect slow variations over decades, something otherwise impossible with today's digital data — putting data online, after all, is only a recent innovation.

http://www.skyandtelescope.com/community/skyblog/newsblog/New-View-of-Nearest-Galaxies--210578781.html Watch the video at the bottom for an explanation of stellar formation in the LMC and SMC – compares visible and UV views from the Swift mission.

In the magazines:

Sky and Telescope(July): Nice article for summer viewing in Scorpio and Sagitarius, a little low in the lights of Denver, but still.... Half a dozen hints for dew busting (dew isn't seen much in Colorado...) It also contained the link to an immense picture of the Milky Way at http://sergebrunier.com/gallerie/pleinciel/index-eng.html zoomable, scrollable..... and pretty darn nice. Raid the change jar – they review the new SBIG camera. And there's directions for modifying a DSLR for astronomy!

Astronomy(July): Who knew that the brightest quasar puts out 1 trillion times the energy of the Sun, constantly? They're gone by now, but still.... A nice article about how we're going to die as a planet, maybe... The ultra-violent sky takes a look at the UV targets up there.

Upcoming Space Missions:

NASA's ISIRIS-REx satellite will visit an asteroid. The current choice is the carbonaceous asteroid (101955) Bennu. They plan a close approach, study it in detail, return a sample ofat least 60
grams to Earth. they want more precise astrometric data for a short list of around 80 asteroids and are seeking imaging help under their "Target Asteroids" program in general and the "Target NEOs!" program with the Astronomical League.

They have partnered with the AL to offer an observing certificate for turning in observations of 10 asteroids for a certificate, and 25 for the advanced certificate together with a pin. Details at:http://www.astroleague.org/files/u3/NEO_HomePage.pdf
Visual observations are acceptable to both programs.
For the most part, this is a program that can be done by amateurs in the city.

There are other plans afoot for a mission to actually capture a small asteroid and return it to the vicinity of the Earth for further study. Plans for this mission are still vague, but stay tuned for more details.

Current Space Missions:

Time to check on Curiosity – the latest images are at
http://mars.jpl.nasa.gov/msl/multimedia/images/ A zoomable billion pixel view at
http://mars.nasa.gov/multimedia/interactives/billionpixel/?image=PIA16918&view=pano
is kinda scary.... A billion of anything is a lot!

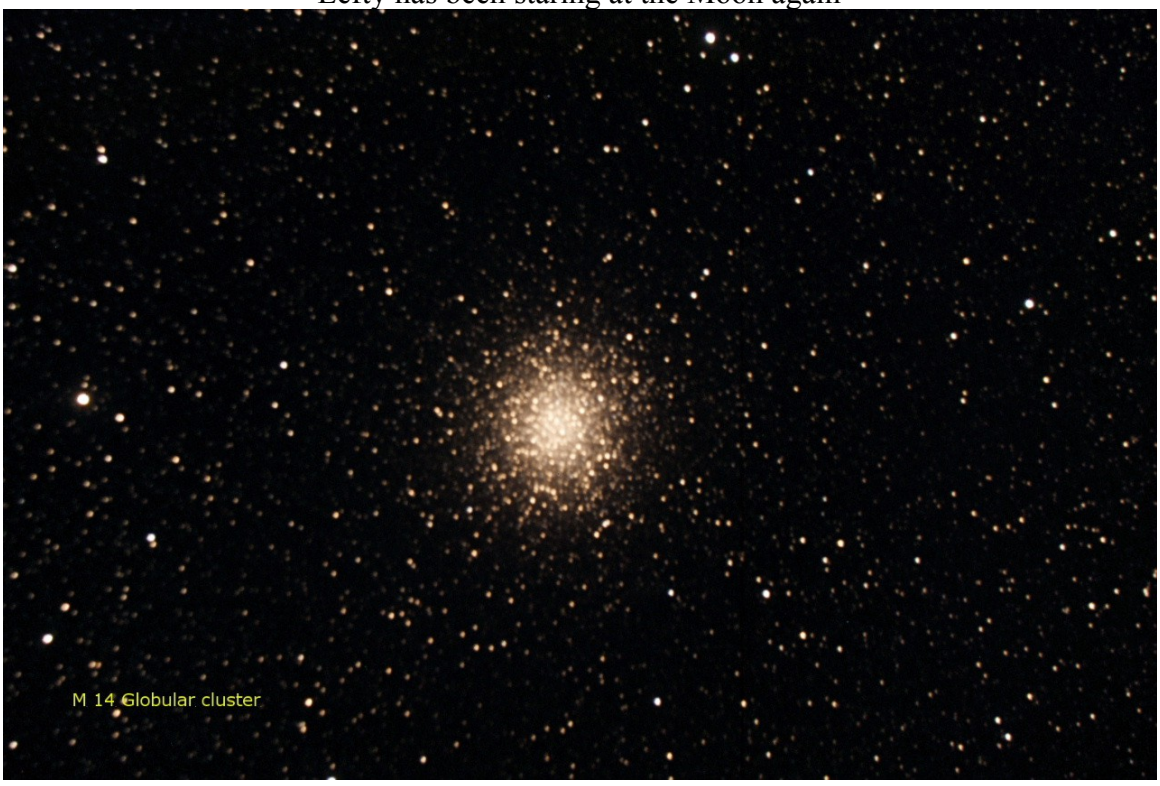
And Cassini is going strong – latest details and images at
http://www.nasa.gov/mission_pages/cassini/main/index.html Cassini is scheduled to take a picture of Earth with the rings off to one side. Why? Because they can!

What's on my desktop?:

The Ring Nebula from the Hubble at (very nice...)
http://hubblesite.org/newscenter/archive/releases/2013/13/image/d/format/web_print/

Pics from the membership:

Lefty has been staring at the Moon again



Gary has finally figured out that focus problem

I went out four times, How come Kimball got to see them?

Humor Dept: