



Baghdad Sulcus area on Encedalus
from Cassini mission

Longmont Astronomy Society Newsletter
November 2008

From the President:

Max Moe will be our speaker at the meeting this Thursday, November 20, in the Community Room at the Front Range Community College. Max's presentation will be about the basics of planetary nebulae, their origins, some observing hints and strategies, and his work on the binary star formation of planetary nebula. As many of you know, Max was the youngest member of the Astronomical League to observe and sketch the Herschel 400 at age 16. He received first place in the Astronomical League's National Young Astronomer Awards in 2003.

Since last meeting we've checked out a couple locations at the Crow Valley Recreation Area. The area north of the ball field isn't great as headlights from cars driving around in the campground are visible from there. We also investigated an area north and east of the campground along the hiking trail by the creek. There is a nice bluff to the south which cuts off lights from the campground. The location has its problems as the hiking trail would need to be widened. Also there is no power nearby. Hopefully we'll get some good weather in the next couple weeks so we can check out some other areas. Many members from LAS and other clubs sent in letters of support to the Forest Service. The exec boards from other astronomy clubs in the area did as well. The Forest Service was impressed by the amount of public support. Thanks one and all!

At this next meeting will be nomination of club officers for 2009. As usual, volunteers are needed! All officers are up for election each year. Here is a brief summary of what each is expected to do and the estimated amount of work involved – I could be wrong, I haven't held all positions.

ALCor – contact person with the Astronomical League, promote AL observing program, and check observing award submissions. An hour or two of your time each month will be required.

Library and Equipment - This position occasionally requires substantial work tracking down what is available. Ongoing work is generally minimal, maybe an hour each month.

Newsletter Editor - This position requires 3-6 hours of work each month collecting information, writing, editing, and emailing.

President – chair meetings, schedule speakers, and write lots of emails!

President should support most public star parties and events. You will probably spend 3-6 hours of work each month as president.

Publicity – contact local newspapers, cable TV, etc to announce meetings and events. Generally an hour or less each month should be required.

Public Relations – answer questions from media and promote the club to the local community. Generally an hour or less each month should be needed to handle public relations.

Treasurer – maintains club roster, receives membership payments, handle magazine subscriptions, and maintain club financial records. You will probably spend 2-6 hours of work each month from Oct. to March, maybe an hour per month the rest of the year.

Vice President chair meetings in absence of president. VP should attend most public star parties. You will probably spend 2-4 hours of work each month as VP.

Webmaster maintains club website. If you are familiar with web design this requires less than an hour of work per month. It takes lots of time though, say 40+ hours, if the website is redesigned which should happen every year or two.

In the sky this month:

Meteor Showers

Taurids and Leonids continue sporadic activity. Geminids from December 6-19, with the expected peak December 13/14.

The **Taurid meteor shower**, weak but long-lasting, remains active at least through mid-November. Actually, "weak" may not be the right word. Taurids are indeed few, but some of them are spectacularly bright. Moreover, this is a [Taurid swarm year](#), when the shower is predicted to be above average. So watch for fireballs!

Update: The Taurid fireballs are indeed happening; see [news](#) and [photo gallery](#) at Spaceweather.com.

Unlike many meteor showers, the Taurids are active in the evening as well as the morning hours. Compared to most meteors, Taurids move relatively slowly in the sky, and they often have a greenish tint. They're fragments of Periodic Comet 2P/Encke.

Planets:

Mercury – not very good right now

Venus – very bright in the southwest at sunset and improving.

Mars – wait a bit, lost in the glare of the Sun

Jupiter – bright in the ssw at sunset, approaching Venus

Venus and **Jupiter** (magnitudes -4.0 and -2.1 , respectively) shine brightly in evening twilight. Jupiter is in the south-southwest; look for brighter Venus to Jupiter's lower right. Watch them close in on each other for the rest of November, by 1° per day. They're 24° apart on November 7th and 15° apart on the 15th. These two brightest planets are heading toward a spectacular conjunction, 2° apart, on November 30th and December 1st.

Saturn – (magnitude $+1.1$, in the hind feet of Leo) rises around 2 a.m. standard time and shines high in the southeast by early dawn. Don't confuse it with Regulus 20° (two fist-widths at arm's length) to its upper right.

A telescope will show that Saturn's rings have turned nearly edge on; they're currently tilted 2° to our line of sight and closing. They'll reach a minimum of 0.8° at the end of the year, then start opening again before finally closing to edge-on next September.

Interesting Stars/Galaxies

The brightest star shining high in the west after dark is Vega. Look even higher above it for Deneb. Look farther to Vega's left for Altair. These three stars form the fading Summer Triangle.

Club Calendar:

Nov 20 – monthly meeting in the community room at FRCC at 7 PM
Christmas party coming up in January.

Fiske Planetarium:

Nov 22 at 2:00pm: "Potterverse Star Party" Enjoy a guide to the night sky of a certain boy wizard, compete in a trivia contest and munch on magical treats!

Dec 11-12 & 18: "Astronomical Star of Bethlehem" With Gil Buller. This annual exciting program examines the sky at a time of the birth of Christ to see which astronomical phenomenon may have been the Star of Bethlehem.

Dec 16-31 (excluding Dec 25) -- Fiske holiday shows at 10:00am & 1:00pm each Tuesday, Wednesday & Thursday!

Ask for an "Adult Free" coupon at Fiske's ticket window! Anyone under age 18 with paid admission qualifies to bring an adult to Fiske at no cost! You are welcome to photocopy and use these coupons until December 31, 2008.

You may download Fiske's FALL 2008 schedule from our website at <http://fiske.colorado.edu/> -- it is directly under the Astronomy Picture of the Day on the right side of the page.

Internet Resources:

Remember to keep downloading the astronomy podcasts at the magazine websites. Sky & Telescope <http://www.skyandtelescope.com/observing/podcasts> always has a "tour this month's sky" podcast, Astronomy magazine <http://www.astronomy.com/asy/default.aspx?c=ss&id=104> has some nice "tour the constellation" podcasts and "what's in the sky this week" podcasts. With the price of mp3 players getting into the \$20-30 dollar range at Christmas, you can have something to listen to during those long nights of observation.

I find that listening to them really helps me go to sleep – maybe I'll learn it during the night?

NASA astronomers have set up a monitoring station to scan the night sky for unknown or unexpected meteor showers--and they're finding more than they bargained for. In only two months of observing, the newly commissioned system has captured a flurry of meteors from an unknown comet and an object from the asteroid belt exploding like 500 lb of TNT. See the movies in today's story.

http://science.nasa.gov/headlines/y2008/10nov_sentinel.htm?list937934

You've probably seen the pictures and story about Hubble actually imaging planets around another nearby star. You can see the original images and read the story at <http://hubblesite.org/news/2008/39/> The planet is a) real big, and b) way the heck out there. Such a technique wouldn't work on the solar system. The problem, as always, is finding planets similar to the Earth.....

Current Space Missions:

CU-BOULDER TO LAUNCH BUTTERFLY, SPIDER K-12 EXPERIMENTS NOV. 14 ON SPACE SHUTTLE

A NASA space shuttle mission carrying a University of Colorado at Boulder payload of web-spinning spiders and wannabe butterflies will be closely monitored by hundreds of K-12 students from Colorado's Front Range after Endeavour launches from Florida for the International Space Station Nov. 14. Haven't seen any reports on this on the news.

STS- 126 in orbit now. Try for a ISS/Shuttle observation, and really, really hope for a double observation after undocking.

STS-126 MISSION SUMMARY NOVEMBER 2008 SPACE SHUTTLE ENDEAVOUR
Space shuttle Endeavour's STS-126 flight will feature important repair work and prepare the International Space Station to house six crew members for long-duration missions. The 15-day flight with its four planned spacewalks will primarily focus on servicing the station's two Solar Alpha Rotary Joints, which allow its solar arrays to track the sun. (The starboard SARJ has had limited use since September 2007.) Endeavour will carry about 32,000 pounds, which will include supplies and equipment necessary to double the crew size from three to six members in spring 2009. The new station cargo includes additional sleeping quarters, a second toilet and a resistance exercise device. The shuttle also will deliver a new crew member and bring back another after more than five months aboard the station. The delivery of the water recycling device (you're drinking someone else's urine, you know...) is necessary for testing, in preparation for any long duration flight to Mars. So far, the repairs have resulted in a lost bag of tools that wasn't secured properly.

Late breaking news and other details at:

http://www.nasa.gov/mission_pages/shuttle/main/index.html

The mission timeline says they'll undock on day 14 (Fri Nov 28) so we might see the pairing that evening and Sat. (Nov 29). They will land on Sun. Nov 30 (if everything goes according to plan).

Don Pettit is a mission specialist on STS-126, and he was a member of Expedition 6 to the ISS, and ran a very good program called "Saturday morning science" with demos and science experiments in zero gravity. So if you've ever wondered what happens when you add an AlkaSeltzer tablet to a thin film of water in zero g, check out <http://spaceflight.nasa.gov/gallery/video/station/expedition6/ndxpage1.html> I guarantee you're going to be fascinated, my high school students begged to watch it again. In addition, Commander Ken Bowersox does a mean tour of the ISS. Give me some feedback on this, and maybe I'll dump the whole batch of CDs on you!

Originally scheduled to last 90 days, Phoenix has completed a fifth month of exploration in the Martian arctic. As expected, with the Martian northern hemisphere shifting from summer to fall, the lander is generating less power due to shorter days and fewer hours of sunlight reaching its solar panels. At the same time, the spacecraft requires more power to run several survival heaters that allow it to operate even as temperatures decline. When you're getting down to -139 on the Fahrenheit scale, you have to conserve your energy. Check out the news personally at: http://www.nasa.gov/mission_pages/phoenix/news/phoenix-20081028.html and you'll find that the mission is now considered complete, and Phoenix is frozen.

NASA's Mercury Surface, Space Environment, Geochemistry, and Ranging (MESSENGER) is the first mission sent to orbit the planet closest to the sun. On Oct. 6, 2008, the probe flew by Mercury for the second time this year, using the planet's gravity for a critical assist needed to keep the spacecraft on track for its orbit insertion around the planet three years from now. During this month's Mercury pass MESSENGER's cameras captured more than 1,200 high-resolution and color images of the planet -- unveiling another 30 percent of Mercury's surface that had never before been seen by spacecraft and gathering essential data for planning the overall mission. You can check out a few of those 1200 pictures yourself at: http://www.nasa.gov/mission_pages/messenger/multimedia/mercury_telecon_20081029.html