

An area south of Valles Marineris at 15° South and 323° East and about 50 km across shows a tectonically controlled karst-like structure in a vertical view.  
(See **Internet things**)

**Longmont Astronomy Society Newsletter**  
**March 2008**

### **From the President:**

Since ancient times the appearance of the star Arcturus in the evening sky foretold that spring was not far away. If it weren't for star chart software nowadays it would be difficult to verify if that is still true. Springtime usually brings us warmer temperatures along with lots of snow and cloudy skies. Fortunately the snow doesn't last long, but the unpredictable weather makes it difficult for us to get telescope views of the dark skies or much else.

The speaker this month will be LAS member John Figoski who works for Ball Aerospace & Technologies. John has been an optical designer for 31 years designing and building telescopes and space instruments for NASA and other government agencies. He will talk about the design and fabrication of Ball's high-resolution telescope imaging system. Thanks to Dan LaFaive and Gary Garzone for bringing scopes to the Carrie Martin Science Fair in Loveland on Feb 29th. Probably about 90 or so kids and parents looked through the scopes. Sky was about 80% overcast but the area around Orion was clear much of the evening. We managed to get some glimpses of the Pleiades, Saturn, and Mars as well.

More school star parties coming up shortly. Telescopes and volunteers will be needed for the Burlington Elementary StarLab program which will be on Friday, April 11. April is usually a busy month for school events so stay tuned.

### **In the sky this month:**

Meteor Showers

Next big one is Lyrids night of April 21/22, with an almost Full Moon to spoil it. Several minor showers [http://www.meteorshowersonline.com/march\\_radiants.html](http://www.meteorshowersonline.com/march_radiants.html), but mostly requiring pretty good interest to watch.

Planets

Mercury: Superior conjunction on April 16<sup>th</sup> on the far side of the Sun, but great at the end of April.

Venus: fading fast in the morning twilight as it goes around the Sun. I lost it a week ago in the "casual observing" stage.

Mars: still high at dusk in the west, setting around midnight. Crossing Gemini during the next month.

Jupiter: early risers can catch it in the morning, high in the southeast at dawn left of the teapot. Good alignment to watch for eclipses of the Galilean satellites.

Saturn: high in the southeast at dusk, magnitude 0.5 or so. The rings are essentially closed and invisible, but they will begin to open during April. Still in retrograde as we pass it.

Interesting Stars/Galaxies: Sky & Telescope says to go for M46 and M47 in the binoculars.

### **Club Calendar:**

Next meeting: April 17<sup>th</sup> at FRCC. Topic: Yerkes Myth. We have all heard that you can't build a refracting telescope larger than 1m in aperture because the lens deforms under its own weight and ruins the image quality. This is often attributed to observations made at Yerkes Observatory. This turns out to be totally false. The members who think reflectors are too easy should pay particular attention.

New Moon viewing: April 6<sup>th</sup> You can finally put away the heated long Johns and have a normal night of viewing. Providing the cloud cover cooperates.

Everyone is invited to a talk by Carolyn Porco, "At Saturn: Tripping the Flight Fantastic" on Monday April 28 at 7:30 pm in the Glen Miller Ballroom, University Memorial Center at University of Colorado.

You can sign up for the event at

[http://www.diamondskyproductions.com/porcolecture\\_rsvp.php](http://www.diamondskyproductions.com/porcolecture_rsvp.php)

Carolyn Porco is leader of the Cassini imaging team. The event is sponsored by the American Astronomical Society.

### **Fiske Planetarium:**

#### **Nikon Small World Exhibit:**

On view through May 16: Enjoy the [Nikon Small World](#) art exhibit at Fiske! **Admission is free.** Marvel at the winning pieces of the 2007 competition, all images taken under the microscope during the course of scientific research. CU faculty involved are: [John Hart](#) who served as a competition judge and [Mike Klymkowsky](#) whose stunning image of frog embryos won 7th Place! Fiske's **lobby is FREE** and open to the public! Experience [Science on a Sphere](#) and our hands-on exhibits. Visitors are welcome M-F 9:00am-5:00pm and Saturdays 1:30-4:30pm. (Editors Note: You can see the images online as well as the past year's winners at <http://www.nikonsmallworld.com/> You should do this – the images are stunning!)

#### **Fiske Programs:**

**7:30pm Friday, March 21: "Mars Revealed"** starshow: Explore [Mars](#) with [Spirit and Opportunity](#) and see the red planet from their point of view.

**10:00am & 1:00pm March 25, 26 & 27 -- Spring Break daytime shows!** Enjoy family-friendly laser shows and starshows while BVSD and CU classes are out. There will be no evening or Saturday programs during this week -- they start again on Thursday, April 3.

**8:00pm March 29** -- Participate in the global **"Earth Hour"** movement by turning your lights off for one hour, like Denver Mayor [John Hickenlooper](#).

**7:30pm April 3** -- *"Is Global Warming Affecting Hurricanes?"* live talk by [Dr. Kerry Emanuel](#) (MIT) in Macky Auditorium. FREE and open to the public as the [43rd George Gamow Memorial Lecture](#).

**7:30pm April 10 & 11 -- "Birth of Stars & Planets" live talk:** See the latest results from the world's best observatories with [Dr. John Bally](#) and explore new discoveries!

**Noon-10:00pm April 12 -- FISKE-SBO ASTRONOMY DAY & YURI'S NIGHT!** All activities FREE and open to the public! Detailed schedule will be posted soon for [Fiske](#) and [SBO](#).

**7:30pm April 17 & 18 -- "The 'Apollo Moon Hoax' Hoax" live talk:** Investigate a die-hard conspiracy theory with CU's Stuart Robbins and see why Americans did not NOT go the Moon in 1969!

### **Little Thomson Observatory:**

Our guest speaker for Friday, March 21 is Meredith Wills-Davey a.k.a. Solar Girl from Southwest Research Institute in Boulder and her topic will be how to make a Sundial. Doors open at 7, talk at 7:30. Observing to follow.

### **Internet Resources:**

Landslides imaged on Mars: See the pictures at [http://www.nasa.gov/images/content/214808main\\_PSP\\_007338\\_2640\\_hires.jpg](http://www.nasa.gov/images/content/214808main_PSP_007338_2640_hires.jpg) (truly a beauty), read the story [http://science.nasa.gov/headlines/y2008/03mar\\_avalanche.htm?list937934](http://science.nasa.gov/headlines/y2008/03mar_avalanche.htm?list937934)

OK, now we know dept: If nature is left to its own devices, about 7.59 billion years from now [Earth](#) will be dragged from its orbit by an engorged red Sun and spiral to a rapid vaporous death. That is the forecast according to new calculations by a pair of astronomers, Klaus-Peter Schroeder of the University of Guanajuato in Mexico and Robert Cannon Smith of the University of Sussex in England.

Suspiciously, this is the same month that the beginning was narrowed down: The generally accepted age for the Earth and the rest of the solar system is about 4.55 billion years (plus or minus about 1%). This value is derived from several different lines of evidence.

Itsy teeny little things explained: If you want to understand how the hadron collider works, or things like that, you can watch the movies at <http://labreporter.com>

So you thought Gary's dinky little green laser was cool? The scientists at University of Michigan (noted for turning out great alumni, I might add) have fired off a 300 terawatt laser. Imagine putting a giant magnifying glass in space and concentrating ALL the sunlight that falls on the Earth, focusing it on ONE grain of sand. Hint: don't stand in front of the laser.... Details at

<http://michigantoday.umich.edu/2008/mar/laser.php?tr=y&auid=3462199>

A suggestion on Yahoo led me to space.com's 3D images of Mars. View the selected images (click on them to enlarge) at:

<http://www.space.com/php/multimedia/imagegallery/igviewer.php?imgid=2075&gid=172>

Liking that, I searched for the mother lode of images from the Mars Express program, and found it at [http://www.esa.int/SPECIALS/Mars\\_Express/](http://www.esa.int/SPECIALS/Mars_Express/) Click around, they're all pretty good. The ESA really needs a publicity agent in the US, we never get to hear about all their discoveries.

### **Last month's meeting:**

From the February meeting:

Dave Gingerich's talk on Stardust and Genesis was informative and brought back the memories. For those members seeking more information:

Genesis mission - <http://genesismission.jpl.nasa.gov/> and [http://www.nasa.gov/mission\\_pages/genesis/main/index.html](http://www.nasa.gov/mission_pages/genesis/main/index.html) with the science data found at <http://genesis.lanl.gov/> (Los Alamos labs). Unless of course if you're a creationist, in which case you might go for <http://genesismission.4t.com/> and try to fit the dinosaurs and trilobites into those 4 thousand years of prehistory.

We had a short discussion of "whether the animation was correct", when it showed Orion in opposition to the Earth during the sample return. The flyby of Earth was given as May 2, and Orion is in opposition around the first of the year, so the animation took some liberties with the facts. Write your congressman and get this straightened out.

Stardust mission - <http://stardust.jpl.nasa.gov/home/index.html> and [http://www.nasa.gov/mission\\_pages/stardust/main/index.html](http://www.nasa.gov/mission_pages/stardust/main/index.html) for the NASA pages, and <http://nssdc.gsfc.nasa.gov/nmc/masterCatalog.do?sc=1999-003A> for details of the extended mission thru 2011.

Other Lockheed-Martin missions:

Mars Odyssey- check out the pretty pictures at <http://mars.jpl.nasa.gov/odyssey/> If you've never seen the "Flight into Valle Marineris" video, then you want to download the video at

<http://mars.jpl.nasa.gov/odyssey/gallery/video/video.html#OdysseyOfExploration>

Phoenix Mars Lander – On its way and scheduled for a landing on Memorial Day, the info is at <http://phoenix.lpl.arizona.edu/> and

[http://www.nasa.gov/mission\\_pages/phoenix/main/](http://www.nasa.gov/mission_pages/phoenix/main/)

While I was searching, I ran across the JPL solar system simulator at

<http://space.jpl.nasa.gov/> which allows you to look at any planet from any probe / other planet, etc. Fun to play with.

Then John Stocke took over with the details of the upcoming installation of the Cosmic Origins Spectrograph. Details of that can be found at <http://cos.colorado.edu/> (gee, right next door!) Details of STS-125, the 4<sup>th</sup> servicing mission to the Hubble Space Telescope, can be found at

[http://www.nasa.gov/mission\\_pages/shuttle/shuttlemissions/hst\\_sm4/index.html](http://www.nasa.gov/mission_pages/shuttle/shuttlemissions/hst_sm4/index.html) (Crew, schedule, past servicing mission videos/pictures, etc)

The COS is designed to extend on the mission results of the GALEX mission, so you might also want to sneak a peek at <http://www.galex.caltech.edu/> for those details.

We also got into a discussion on LaGrange points for parking satellites. SOHO is in one, the James Webb telescope is in another, and it turns out that the WMAP is parked in one, too. That's where I found this tutorial on the math of LaGrange points at:

[http://map.gsfc.nasa.gov/mission/observatory\\_12.html](http://map.gsfc.nasa.gov/mission/observatory_12.html)

### Upcoming Space Missions:

Next shuttle launch takes the Japanese Kibo lab to the ISS, but then the last servicing mission to the Hubble will take place in August, tentatively. Then the camera will work again....

## Kids' Astronomy Essay Contest

*“LOOK TO THE STARS”*

*1<sup>ST</sup> ANNUAL ASTRONOMY ESSAY CONTEST*



NASA Photo: M31 (Andromeda)

**\$500 IN CASH PRIZES!**

This contest, open to ages 5 to 18, is conducted to encourage and recognize students interested in astronomy and related scientific fields.

Winning entries will be selected for their originality and insight as judge by a panel from the *Santa Barbara Astronomical Unit* ([www.sbau.org](http://www.sbau.org)). Parents & teachers...PLEASE NO COACHING and only one (1) essay entry per student. Include student's name, address and birth date. *The contestants' see on June 21, 2008 to determine essay topic.* HANTY  
*Santa Barbara Astronomical Unit*

If you're 5 to 18 and can write a short astronomy essay, you can send it in for a shot at prizes ranging from \$50 to \$200. Even better: if you handwrite the essay and include a self-addressed stamped envelope, you're *guaranteed* to receive a small fragment of a stony meteorite in return.

The lengths are short: no more than 150 words in the age 5–8 category, and 300 words for ages 16–18. Maybe you make blog and newsgroup posts that long without a second thought. Give one a second thought, and a little extra research and polishing, and it could pay off.

The contest ends Dec. 21, 2008. Information:

[www.dale93108.com/Meteor-Pages/Image0.html](http://www.dale93108.com/Meteor-Pages/Image0.html).

Sponsored by Dale Lowdermilk / Santa Barbara Astronomical Unit.

**This month's Wacky Idea:**

**Humor Dept:**

With apologies (?) to Jeff Foxworthy -

## **You Might NOT Be An Astronomer If You Think That...**

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*Culled from Newsgroups...Original Source Unknown*

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**AURORA BOREALIS**

is an exotic dancer in Nome, Alaska

**AN ASTRONOMICAL UNIT**

refers to the cost of an Air Force toilet.

**BETELGEUSE**

is the stuff you squeegee off the windshield of your car.

**CLOCK DRIVE**

refers to the street beneath Big Ben.

**A GASEOUS PROMINENCE**

is Newt Gingrich.

**HYPERED FILM**

is when you really need to brush your teeth.

**LIGHT POLLUTION**

is a few beer cans in the yard.

**AN UMBRA**

is something you need during a rain shower.

**PLUTO**

is Mickey's sidekick.

**NORTHERN LIGHTS**

is a brand of a mentholated, low nicotine cigarette.

**PERIHELION**

is a guy who sang "That's Amore" in the 1950s.

**SOLAR CORONA**

is warm Mexican beer.

**AN OFF AXIS GUIDER**

is a persistent backseat driver.

**A MAKSUTOV**

is a wine bottle filled with gasoline and thrown at tanks.

**A STAR PARTY**

is a Hollywood bash.

**SCHMIDT-CASSEGRAIN**

is a German meal made with rice.

**REFRACTOR**

is when Vito breaks your leg for the second time.

**ZODIACAL LIGHT**

is a low alcohol beer.

**A STAR CHART**

predicts the future.

**A PENUMBRA**

is something you need during a rain shower or when you need to write a note.

**THE PHOTOSPHERE**

is a snapshot of a beachball.

**A GRAVITATIONAL LENS**

is the new contact your kid drops through an open grate.

**A NEUTRON**

is a fig cookie.

**A LIGHT YEAR**

is a period of time when you don't have enough cash.

**A BLACK HOLE**

is that sump in your basement.

## SOLAR WIND

is what your fat uncle had after Thanksgiving dinner.

## URANUS

is an anatomical feature rather than a planet.

Club images:

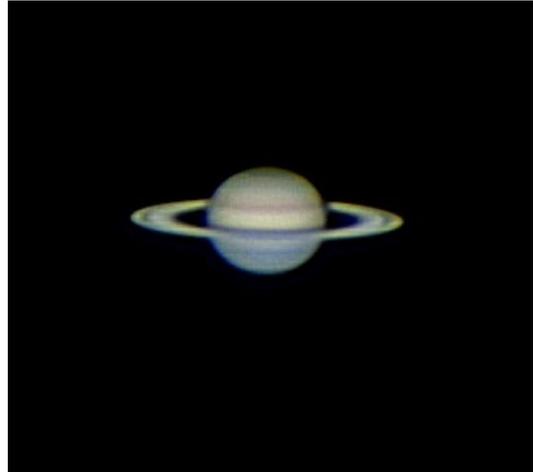


Mike Hotka collects a couple of observing awards from Dick Mallot



Marc Wiley Stellavues the Moon

The best pictures of the month were Brian Kimball's batch of Comet P17 Holmes that were printed in the March Reflector



Gary Garzone gets Saturn in a 2x Barlow before the rings close



M53 by Gary Garzone (good seeing night)