

# Observatory e-News

June 2008  
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## June Events At the Observatory

May 31<sup>st</sup> – Stonelick Lake Star Party. Rain date June 7<sup>th</sup>. See page 4.

June 1<sup>st</sup> & 29<sup>th</sup> – Sunday Skywatch, 8:30 pm. See page 2.

June 5<sup>th</sup> - FOTO monthly meeting. 7:30 pm. See page 2.

June 6<sup>th</sup> – FOTOKids meeting, 8:30 pm (new time). See page 2.

June 7<sup>th</sup> – Open House, 8-10 pm. See page 3.

June 8 & 22 - Observatory tours, 1-4 pm. See page 3.

June 18 - Lecture Series. "Cosmic rays." 7-9 pm. See page 2.

June 19<sup>th</sup> – FOTO Planning Meeting, 6 pm at Panera Bread in the Hyde Park Plaza (new location) See page 2.

June 26<sup>th</sup> – Solar Thursdays, 6-8 pm. See page 4.

## *The Word from* FOTOs President Bosse

It seems like only yesterday, but it has been a quick one hundred years since the Tunguska Event. It all went down on June 30<sup>th</sup>, 1908, about 7:15 in the morning. Not really sure what happened there, but something surely went bang in the sky, in a big way. Something hit the Earth, or more correctly, hit the atmosphere, exploded/vaporized and was seen from more than 300 miles away in all directions, and heard, literally, around the world. The object may not have hit the Earth, but the pressure wave from the explosion certainly did. It registered 5.0 on the Richter Scale. Eighty million trees assumed the horizontal position as the pressure wave devastated 830 square miles of Siberia.

If the object, probably a comet or piece of a comet, had hit the Earth over a populated area, the results could have been much worse. As it was, the Lower Stony Tunguska River was probably the best place on Earth for an impact to occur.

Sparsely populated swampy wasteland for miles and miles (and miles and miles). The Soviet naturalist Leonid Kulik was terribly interested in the "event," but was unable to mount an expedition or even get to the site for almost 20 years.

Using Gene Shoemaker's estimates on Earth impact frequencies, such an object will hit the Earth about every 300 years. By the time you figure in the area of the oceans and unpopulated land areas, such an event should be "noticed" every five thousand years or so. Obviously, then, this must have been the biggest astronomical collision in recorded history. I suppose such events could be the stuff of myth and legend. Hmm.

Just for a second, imagine moving the impact a mere 50 years into the future. In astronomical terms that's a mere blink of an eye. It's 1958 and let's airburst the equivalent of 30 megatons of TNT over the Soviet Union. The most recent 50 years may have played out a bit differently. Nuclear retaliation aside, I still don't want a big chunk of space-stuff smacking a hole in my favorite planet. Apparently, neither does Congress.

I have tried to read the *Near-*

*Earth Object Survey and Deflection Analysis of Alternatives.* I have tried to read NASA's report to Congress titled "Near-Earth Object Survey and Deflection Analysis of Alternatives" on several occasions and, well, it's not a page-turner.

The main thrust is that NASA has been charged with cataloging 90% of all objects orbiting the Sun, near the Earth, greater than 140 meters across (the Tunguska object was smaller) by the year 2020. The politicians have entrusted the astronomers with the task of keeping an eye on things (as it should be!). Good luck to them. We all have our fingers crossed.

There is not much we can do to help NASA find all the potentially dangerous space gremlins, but we do have our own similar mission at the end of Observatory Place. Even if you just look up at the sky from time to time, that qualifies you as an astronomer. We, the astronomers, have been entrusted to keep an eye on the Observatory gremlins and keep them at bay. Keep an eye out, eh? Good luck to us.

Clear skies and clear space for all!

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## FOTO Planning Meeting

*By Dave Bosse*

The next FOTO planning meeting will be held on the evening of June 19th at 6:00 p.m.. We will be meeting at the Panera Bread restaurant in the Hyde Park Plaza, just a few blocks from the Observatory. All members of FOTO are invited to attend any and all of these spirited gatherings. Your input is welcomed, appreciated and needed to keep FOTO headed in the right direction. Good company, good cuisine.

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## FOTO June Meeting

*By Dave Bosse*

At the last FOTO general meeting we enjoyed a short film produced at the Greenwich Observatory on *John Harrison and his Timekeepers*. Frank Huss provided the courier services (and the video). John Harrison has received a fair amount of attention over the last few years (since Dava Sobel's book "Longitude") and this presentation was an entertaining reprise with lots of close-up action footage. Most enjoyable! Thanks, Frank.

**Be sure to attend the next general FOTO meeting at 7:30 on June 5th, at the Observatory.**

**Ron Ravneberg** will be coming down from Columbus to give us a presentation on Planispheres. Ron has quite a collection of these simple Astronomical tools and as many FOTO members can attest, Ron is a wonderful speaker. This program is not to be missed!

In addition, we will also be laying plans for the annual FOTO Picnic, scheduled for July. We will have sign-up sheets for food and picnic type supplies. Drinks and other sundries will be supplied by FOTO.

**IMPORTANT:** note to all FOTO members. **We have moved the date of the meeting/picnic from July 3rd to July 10th** (second Thursday in July) to avoid any commitments presented by Independence Day. Mark your calendars now!

Quite a few FOTO members show up at Panera Bread in the Hyde Park Plaza around 6:00 p.m., for a light supper before the general meeting. Some just come for the pastries. Some just come for the company. All are invited.

## June FOTOkids Meeting

*By Dean Regas*

FOTOkids is getting awful tired of rain, snow, and sleet. After some bad luck with the weather we're hoping for some clear skies to observe Saturn up close and personal and work on a few telescope projects.

**The June meeting of FOTO Kids will be on Friday June 6, at 8:30 pm (note the new time).** Outreach Astronomer Dean Regas will be leading the group from humble telescopes to the Hubble telescope.

If you have binoculars or a scope please bring it with you. For any questions please call Dean at 513-321-5186 or email him at

[deanobservatory@zoomtown.com](mailto:deanobservatory@zoomtown.com)

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## Sunday Skywatches

Sunday, June 1 & 29<sup>th</sup>  
8:30 pm

From the tremendous response to the 3<sup>rd</sup> Wednesday lecture series it's evident that Observatory members welcome an in-depth look at the heavens. Join COC's own Richard Hamilton for a comprehensive investigation of a wealth of different topics. In each session Richard delves into the underlying physics and mathematics that allow astronomers to know what we do about the universe. The series is free to members and open to the public for a nominal charge.

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## Did You Know....

In 2005, NASA astronomers began watching the Moon to see how often meteoroids crashed into the lunar surface. They've just video-taped their 100th explosion.

## Touchdown! Phoenix Lands on the Arctic Plains of Mars!

NASA's Phoenix lander plunged into the Martian atmosphere Sunday, May 25<sup>th</sup> at 12,700 mph, and then used atmospheric friction, a large parachute and finally, 12 individually controlled rocket engines to complete an automated landing near the red planet's northern polar cap. <http://spaceflightnow.com/mars/phoenix/080525landing.html>



*(This is the actual color of Mars)*



*The Phoenix Lander*



*Black & white photo of the Lander's footprint on Mars*

LIVE UPDATES IN THE MISSION STATUS CENTER:  
<http://spaceflightnow.com/mars/phoenix/status.html>

## School's Out – There's an Open House At the Observatory

Saturday, June 7th,  
8-10 pm

*By Dean Regas*

School's out for summer and it is a perfect time to treat those hard-working, weary students to a night of star gazing, planet-gazing, and Moon-gazing. The Observatory welcomes students and parents to see the craters of the Moon, the rings of Saturn, and the stars of summer. The main telescopes as well as several portable scopes will be set up to view the heavens (weather permitting).

This is a great event for all ages. Donations welcome. For further information, please call 513-321-5186.

## 3<sup>rd</sup> Wednesdays Astronomy Lecture Series

June 18<sup>th</sup>, 7-9 pm

This month join Xavier University astronomer **Marco Fatuzzo** whose topic will be cosmic rays.

This interesting series features guest speakers from UC, Xavier, Cincinnati State and other local colleges and universities, as well as, our own talented staff. The series will feature topics for all interest levels and act as a venue to showcase the professional level research and educational work that is being done by local astronomers.

Last month our own **Dr. Roger Burgess** delved into the *Physics of Variable Stars* which included strange Quark Stars and cataclysmic Hypernova.

The series is FREE to members and open to the public for a nominal charge.

## Observatory History Tours

June 8<sup>th</sup> & 22<sup>nd</sup>, 1-4 pm

Join Observatory historians and docents for an in-depth and behind the scenes look at your observatory. John Ventre, Richard Davis, Andy Bruggeman, Bill Bachelder, Linda Magee, Valerie Niemi and others weave fascinating stories that are tied to the history of astronomy, the city and the early university. Group tours for scouts, seniors and other history buffs can be scheduled on other dates and times by contacting **John Ventre**.

## Astronomy at a Flower Show?

What's the connection?

Arkansas Blue Star Flower, Azalea Northern Lights, Blazing Star Cosmos, Dark Star Hosta, Eclipse Coleus, Heliotrope, Jupiter's Beard, Midnight Eclipse Calla Lily, Moonbeam Coreopsis, Nova Lux Gladiolus, Saturn Coleus, Star Flower, Star Tulip, Stargazer Lily, Sun Flower, Sundrops, Sunpower Hosta, Venus Fly Trap...there are many more.



Terry Powell at the COC booth  
April 27-28

As part of the *Leave No Child Inside Cincinnati* ([www.lncigc.org](http://www.lncigc.org)), the Observatory joined dozens of other nature and environmental education organizations at the recent Cincinnati Flower Show. Over 600 families visited their 1<sup>st</sup> annual Small Wonders exhibit.

You could see visitors wondering why astronomers would be at the show and then they would make the connection. A definite *ah-hah* moment. Thanks to all the volunteers who landscaped and staffed the display over the weekend!

And a special thanks to landscape designer **Tim Young** of *Delhi Landscape Services* in Tri-County

([www.delhigardencenters.com](http://www.delhigardencenters.com)) for crafting our space and loaning us all the "astro plants".



2002-Treasures of  
the Queen City

**Bob Maddux**, owner of *Dehli Garden Center* also generously donated the large observatory model featured in their award winning "Treasures of the Queen City" exhibit in 2002 so we can use it at other events.

## Apollo Rendezvous; Celebrating 90 Years of Astronomy

Dayton, OH June 13 & 14<sup>th</sup>

The Miami Valley Astronomical society hosts their 38<sup>th</sup> annual telescope convention & star party over Father's Day weekend. World class speakers, telescope making competition, Astro-imaging contest, planetarium shows, vendors, swap meet, raffle, and great door prizes, followed by a BBQ & star party! More information at [www.mvas.org](http://www.mvas.org)

## Sun-day Sunday Sundaes

By Craig Niemi



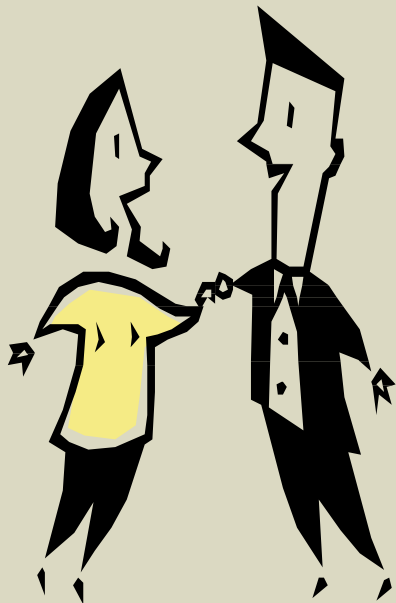
Sun Sunday Ha viewing

The Sun was the stellar attraction and over 200 came out to learn about our nearest star, view and listen to the sun, and see the sun in action. Not to mention enjoy free sundaes courtesy Truth Dairy! **John Coff** kept the Mitchel scope ready for peeks between intermittent clouds, Kirk was the "green astronomer", Dean did what Dean does best, Tom Kloecker drew a crowd to his radio telescope, and **Valerie** and her niece **Brynn** served up over 10 gallons of ice cream. UC's solar powered fountain and the Solar Decathlon House displays were very popular. Few have probably seen a large solar array before and it put out a surprising amount of power. Thanks to Dale Zoller for arranging their visit. Looks like they'll be back at ScopeOut. <http://solar.uc.edu/solar2007/house>

## Did You Know....

The star LP 327-186, a so-called white dwarf, is smaller than the state of Texas, yet so dense, that if a cubic inch of it were brought to Earth, it would weigh more than 1.5 million tons. Try putting that in the back of your SUV.

## Welcome Renewing & New FOTO and COC Members!



Oliver Baily  
Jack Bishop  
David & Peggy Bosse  
Mike Brown  
John Ciliege  
Bill Ernst  
Terry Flesch  
Louis Freese  
James & Lola Gabel  
Robert Gilbert  
James & Susan Groen  
Frank & Aileen Helfen  
Phyllis Hopple  
Perrin March III  
David & Linda McBride  
Leroy Memering  
Doris Parsenios  
Laura Peck  
Basil Rowe  
James L. Thompson  
Arnold Van Skaik  
Elizabeth Weber  
Gregory Yudovich  
and Deborah Zai

## Dean Wows 'em On Channel 19

*By Marsie Newbold*



Cincinnati Observatory Center Outreach Astronomer **Dean Regas** was a guest on the "19 in the Morning" program on WXIX-Channel 19 the morning of Friday, May 2, 2008 to promote "Sun-day Sunday Sundae."

Here is a photo of Anchor Rob Williams (left), Anchor Sheila Gray (middle) and Dean (right).

## And Dean Charms 'em On Channel 5

*By Marsie Newbold*



Here's **Dean Regas** being interviewed by WLW-TV's anchor Todd Dykes on Sunday, May 18, 2008 to promote our "Sun-day Sunday Sundae" event.

## Building 'Super Roadmaps' Of Planets and Moons

3D "super roadmaps" of other planets and moons could provide robots, astronauts and engineers details about atmospheric composition, biohazards, wind speed and temperature. Information like this could help land future spacecraft and more effectively navigate roving cameras across a Martian or lunar terrain. <http://spaceflightnow.com/news/n0805/15roadmaps/>

## Astronomers Find That Universe Shines Twice As Bright As Thought

Astronomers from UK Universities working with colleagues from Germany and Australia have calculated that the universe is actually twice as bright as previously thought, reporting that dust is obscuring approximately half of the light that the universe is currently generating.

<http://spaceflightnow.com/news/n0805/15bright/>

## Share a Ride to Green Bank Star Quest 2008

Early July. **Graham Davis & John Coff** looking for two participants to car pool to West Virginia Greenbank this July. (Check out the web site for all details )....; will have a comfortable car that seats four, and will tow along a U-Haul for camp gear & equipment. Though bunk houses are available for the more infirm among us! Call Graham at 513-673 9106 or John at 513 325 1400.

## Craig's Corner

By Craig Niemi, Executive Director  
of the Cincinnati Observatory  
Center

### The Observatory is Looking Great!

We want to thank the *Carol Ann and Ralph V. Haile, Jr. / US Bank Foundation* for generously supporting the final restoration project of Cincinnati's historic Observatory. The plaster stabilization and restoration project is complete. Kris Lemmon and her talented crew from *DecoWorks* have done an amazing job recreating the original faux painting and the final result looks spectacular.

As I write this Gus Thierry and his craftsmen from *ICS Building Restoration* are installing the four bookcases that will match the building's original units. Work should be completed by month's end. Again, just spectacular work! John Ventre is already planning how best to display all our artifacts which highlight the Observatory's contributions to the history and science of astronomy. The Museum Committee can then start planning the displays for the two alcoves which will tell Paul Herget and Cleveland Abbe's stories.

Earlier in May the Cincinnati Observatory hosted the "*The Vintage Observatory: Thriving in the 21<sup>st</sup> Century*" conference which showcased how far the Observatory has come in all areas of our mission. It's our intention to keep the Observatory in the forefront of this hot issue. The exposure the Observatory

gained through the conference has been tremendous and sets the stage for 2009 which is the *International Year of Astronomy* when the world celebrates the 400<sup>th</sup> anniversary of the invention of the telescope.

Design and engineering work continues on the *Paul Nohr Memorial Sundial*. We ran into an issue with the old iron and lead waterlines that feed the two buildings. The Water Works will not allow us to build on top of the lines which run directly under the site for Paul's memorial. That should be cleared up soon and work can begin. Keep June 21<sup>st</sup>, the Summer Solstice, open on your calendar. If all goes well there will be a ground breaking ceremony followed by the dedication on Saturday September 13<sup>th</sup> at our annual astronomy and education fair, ScopeOut.

Summer may signal the end of school for students, but not for teachers. Dean, Roger and Richard are hosting Xavier University's week-long "*Teaching Astronomy & Space Science*" workshop in June. As our educational program offerings continue to expand the Observatory is becoming a year-round resource for students and teachers.

See you at the Observatory!

## Word of the Month

By Greg Huber

"ZAMS"

Word for May: "Physical Double"

A "Physical Double" is a double star in which the components are physically linked by gravity.

## Discovery of the Most Recent Supernova in Our Galaxy



The most recent supernova in our galaxy has been discovered by tracking the rapid expansion of its remains. This result, using NASA's Chandra X-ray Observatory and the National Radio Astronomy Observatory's Very Large Array, will help improve our understanding of how often supernovae explode in the Milky Way galaxy. <http://spaceflightnow.com/news/n0805/14supernova/>

## Solar Thursdays

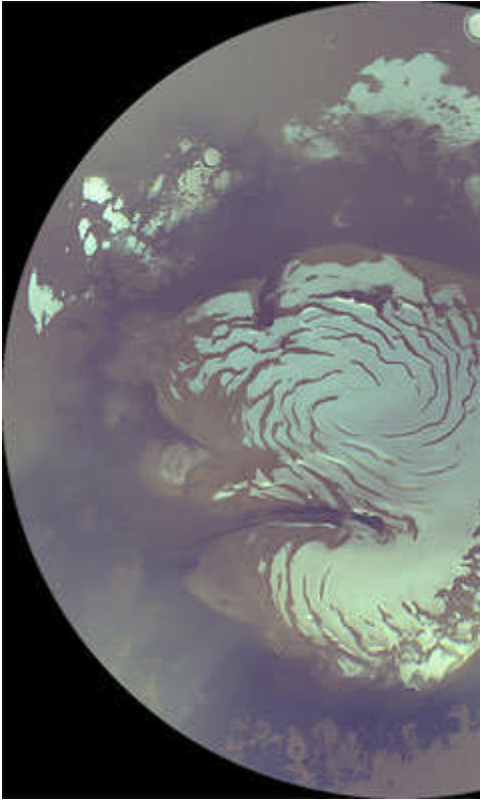
June 26<sup>th</sup> & July 17<sup>th</sup>  
6-8 pm

Daylight saving time and the summer solstice! What's an astronomer to do?

*Look at the Sun!*

Join FOTO President **Dave Bosse** for an up-close look, literally and figuratively, at the nearest star to us. How do you determine the physical properties of a star when you can't touch them, weigh them or stick them in a thermometer? What can we learn about other stars from our own Sun? Free to members.

## Mars Is Colder Than We Thought



New observations from NASA's Mars Reconnaissance Orbiter indicate that the crust and upper mantle of Mars are stiffer and colder than previously thought.

<http://spaceflightnow.com/news/n0805/15marsinterior/>

## Key Molecule Discovered In Venusian Atmosphere

Venus Express has made the first detection of the molecule hydroxyl in the upper atmosphere of Venus, giving scientists a vital tool to unlock the mechanics of our sister planet's dense atmosphere.

<http://astronomynow.com/KeymoleculediscoveredinVenusianatmosphere.html>

## The Vintage Observatory; Thriving in the 21<sup>st</sup> Century



*Group shot of some of the conference participants and volunteers*

*"The Cincinnati workshop was fantastic!—in content both historical and "how-to," and in the opportunity to meet and brainstorm with others with shared enthusiasms and problems. It was informative not only to ATS members, but a real service the ATS provided in being a clearinghouse for strategies that could put vintage observatories on sounder footings."*, Sara Schechner, PhD, Department of the History of Science, Harvard University.

*"The Cincinnati Observatory is a wonderful model of what is possible to accomplish given vision and hard work, and I'm sure it was inspiring to folks from the other observatories that were in attendance"*, Ken Launie, President the Antique Telescope Society.



*Mattie Hoffman, Astronomer Boyden Observatory South Africa*



*COC's Roger Burgess as Sir Isaac Newton.*

## Did You Know....

[It has a mountain just over 10 miles high.](#)

## Rare Quartet of Stars Aids Stellar Evolution Models

Astronomers have discovered an extremely rare quartet of stars, disguised as a single speck of light even through some of the world's most powerful telescopes, orbiting each other within a region smaller than Jupiter's orbit round the Sun. <http://astronomynow.com/Rarequartetofstarsaidsstellarevolutionmodels.html>

## The Tunguska Event Turns 100

*Submitted by Dave McBride*

We have a good sense of what would happen if a rocky asteroid were to hit the earth. Many people believe that this has already happened, although it may have been a glancing blow instead of a direct hit. Shortly after 7:00 AM on June 30, 1908, something happened in the area around the Tunguska river in Siberia.



*Photograph from the Soviet Academy of Science 1927 expedition led by Leonid Kulik. Image is a file from the Wikimedia Commons*

Although this was a sparsely settled region, an enormous explosion was heard, and afterward, a 20-mile area of felled and scorched trees was discovered. What is clear from the impact area is that nothing actually landed at Tunguska because there is no impact crater. There was no evidence of a great extraterrestrial ship landing either. Most scientists now seem to agree that most likely a comet – but possibly an asteroid – approached the earth and skimmed the atmosphere above the area, skipping away like a stone thrown across a pond, but still inflicting tremendous damage.

**Here is an eyewitness account of the mysterious June 30, 1908, “explosion” in Siberia:**

“I was sitting on the porch of the house at the trading station of Vanovara at breakfast time and looking toward the north. I had just raised my axe to hoop a cask, when suddenly... the sky split in two, and high above the forest the whole northern part of the sky appeared to be covered with fire. At that moment I felt a great heat as if my shirt had caught fire... I wanted to pull off my shirt and throw it away, but at that moment there was a bang in the sky, and a mighty crash was heard. I was thrown to the ground... and for a moment I lost consciousness...”

The crash was followed by a noise like stones falling from the sky, or guns firing. The earth trembled, and when I lay on the ground I covered my head because I was afraid the stones might hit it. At that moment when the sky opened, a hot wind, as from a cannon, blew past the huts from the north. It left its mark on the ground.” (Testimony of S. Semenov, as recorded by Leonid Kulik's expedition in 1930.)

### Stonelick Lake Star Parties

*By Scott Naylor*

The next scheduled **Stonelick Star Parties** will be **Saturday May 31st & Saturday June 7th**. The next scheduled dates will be June 28th & July 5th.

We've been observing throughout the week - when the skies are really good, if you'd like to be notified when folks are going out to Stonelick just let me know.

For directions or for more information phone **Scott Naylor** at 513-575-5556.

## Yellowstone-Like Hot Spring Deposits Found On Mars



As the rover drove away, its jammed right front wheel dug this trench.

Deposits of nearly pure silica discovered by the Mars Exploration Rover Spirit in Gusev Crater formed when volcanic steam or hot water (or maybe both) percolated through the ground. Such deposits are found around hydrothermal vents like those in Yellowstone National Park.

<http://spaceflightnow.com/news/n0805/22marshotsprings/>

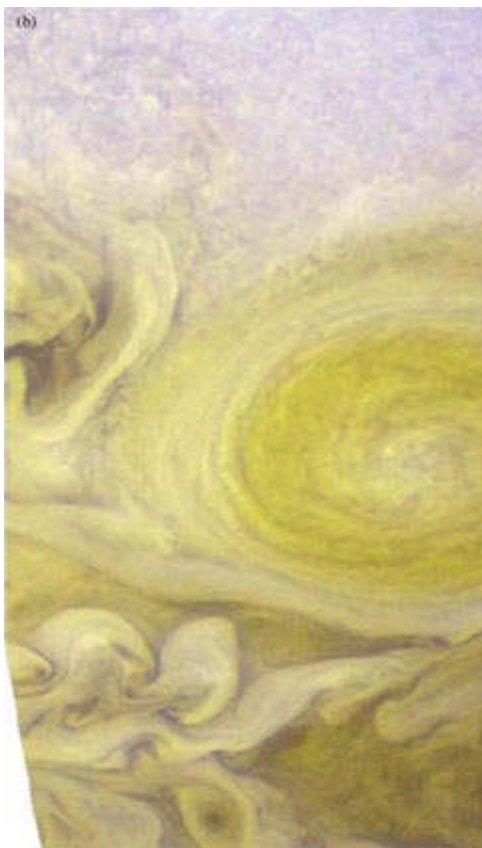
### Did You Know....

Astronauts standing in the middle of the Moon's lunar lava seas weigh more than they do standing on the shore. A new NASA mission named GRAIL aims to map the Moon's quirky gravity field and thus pave the way for future exploration.

## Scientists Witness a Once-In-A-Lifetime Event

When she peered into the screen of her computer one day in January, Alicia Soderberg was supposed to see a small, dull glowing smudge in one corner, the evidence of a month-old supernova that would help her better understand the mystery of these huge exploding stars. <http://spaceflightnow.com/news/n0805/21supernova/>

## Mighty Winds Blow in Jupiter's Little Red Spot



In this quasi-true-color view generated using a New Horizons-LORRI mosaic and a Hubble Space Telescope map, Jupiter's Little Red Spot appears with distinctly redder color than the south tropical disturbance to the north or the small oval to the southeast.

Using data from NASA's New Horizons spacecraft and two

telescopes at Earth, an international team of scientists has found that one of the solar system's largest and newest storms - Jupiter's Little Red Spot - has some of the highest wind speeds ever detected on any planet. <http://spaceflightnow.com/news/n0805/21littleredspot/>

## June's Trivia Question

By Greg Huber

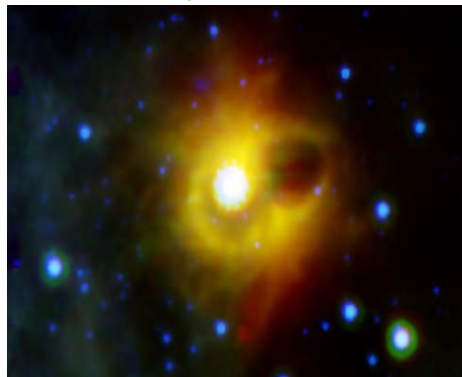
Why are meteorites from Mars called SNC's?

### May's Trivia Question

At what point in the countdown to launch a shuttle do the on-board computers take over from Mission Control?

Answer: It is at T-minus 31 seconds that the Space Shuttle's computer takes over from the computers at Mission Control.

## Strange Ring Found Circling Dead Star



NASA's Spitzer Space Telescope has found a bizarre ring of material around the magnetic remains of a star that blasted itself to smithereens. Although rings and spheres of material are common in the universe, this one is not quite like any ring astronomers have seen before.

[http://science.nasa.gov/headlines/y2008/29may\\_magnetar.htm?list739819](http://science.nasa.gov/headlines/y2008/29may_magnetar.htm?list739819)

## Did You Know....

Hang on! Our solar system is flying through space at 134 miles per second!



This is the End!