

Observatory News

July 2011
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www.cincinnatiobservatory.org Bill Cartwright, editor

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wcartw@aol.com



Coming Up At The Observatory....

July 2 FOTOKids (at
Stonelick)
July 2 Stonelick Stargaze
July 5 Behind the Scenes
July 6 Snakes in Mythology
July 7 Member's Picnic
July 8 & 15 Astro Fridays
July 22 & 29 Astro Fridays
July 11-14 Summer Camp
July 14 & 21 Astro Thursdays
July 19 Member's Astro Class
July 23 Lincoln Ridge (KY)
Stargaze
July 24 History Tour
July 28 Astro Thursdays
Aug. 1-4 Summer Camp
Aug 13 Picnic Under The Stars
Sept. 10 ScopeOut

The Word

By Dale Zoller

FOTO adopted its revised bylaws in May 2009. Over the past two years we have identified several areas in need of updates. In accordance with the bylaws, any proposed changes must be published in the newsletter at least thirty (30) days in advance of a vote to revise the bylaws. We intend to discuss the changes at the August meeting (July is the FOTO picnic).

Starting with the simplest, we would like change the timing of the FOTO president's "annual report" (Article 6, President, paragraph 3). The current wording calls for the president's annual report describing FOTO's accomplishments to be published "in the March newsletter." For the last several years a similar report has also been included as part of the COC annual report which is published in June. In order to eliminate the

redundancy, we propose to change the wording to "The President shall publish an 'Annual Report on the State of FOTO' *as a part of the COC Annual Report...*"

The second change is an addition to the description of the FOTO Treasurer's duties (Article 6, Treasurer, paragraph 1), adding a report of the previous year's finances. The statement in paragraph 1 "...shall give a report at FOTO's monthly meetings; shall keep records..." would be modified to "...shall give a report at FOTO's monthly meetings; *shall give an annual report of on the previous year's finances early in the year;* shall keep records..."

The third set of changes has to do with the FOTO representative to the COC (Article 7). The proposed changes are:

1. Change the election month from April to October to be aligned with the other officers and trustees. Since the election will be moved to October, along with the officer and trustee elections, there is no need to have a separate section on the election of the COC-FOTO rep. The heading "Election" should be removed, along with the first

and third paragraphs under that heading.

2. Article 7, number 1: Change to: "Shall serve no more than two (2) *complete* consecutive three (3) year terms.
3. Article 7, number 2: Change to: "May serve on the COC Executive Committee." (remove reference to serving as a COC officer)
4. Article 9, Election of Officers / Board Members: Add the COC-FOTO representative to the list of those being elected: "FOTO officers, the four (4) Board Members and the COC-FOTO representative to be elected..."

We will present these proposed changes at the August meeting and open them to discussion during the business portion of the meeting. Please plan to attend and voice your opinion on these proposed changes to the bylaws.

FOTO's July Meeting

By Tom East

7/7/2011 - FOTO Picnic (Loaner Scopes on Display). Join us at 6:00 PM for the annual FOTO Picnic on the Observatory grounds. Bring your own meat or meat substitute to be grilled by FOTO volunteers - FOTO will provide the trimmings. Feel free to bring a side dish or dessert to share if you wish.

8/4/2011 - Motion of the Planets around the Sun. August's presentation is a special program still in development. Stay tuned for further details.

9/1/2011 - Cataclysmic Variables presented by Steve Tilford

June FOTO Meeting Highlights

By Dale Zoller

June 2011 FOTO Meeting Highlights

Jerry Black's program "*Manned Mission to Near Earth Asteroids*" presented the arguments for a manned mission to a near Earth asteroid as opposed to returning to the Moon (been there, done that). An asteroid mission could be a stepping-stone to an eventual Mars mission, providing the means to test the technology for an extended length mission.

Cincinnati Astronomical Society Raffle: **Ralph Goldsmith** announced this fundraising event. Prizes range from a star party to use of a vacation condo in the Colorado Rockies.

COC Director: Craig Niemi:

- Leo and Dean are very busy this summer with many educational programs including scout troops, home-schooled and other programs.
- UC President Greg Williams and his wife visited COC for the first time and were favorably impressed. Dr. Williams proposed further discussions regarding the long term relationship between COC and UC.
- Apollo Rendezvous, 6-10 and 6-11, Boonshoft Museum.

COC Representative: Scott Gainey:

Scott made a motion that we order 200 T-shirts, with \$1,100 allocated for the purchase. The motion was seconded and passed unanimously. The T-shirts will be of assorted sizes, men's and women's, some with breast pockets, some with logo in the front but most with logo only on the back. The COC polo shirts have already been made, as these

were paid for by COC. These were available for sale at the meeting.

New Business:

- Leo proposed that we try to make the Mitchel telescope handicapped-accessible. He envisions a series of ramps through the lecture room up to the stage, so wheelchairs could get into the dome through the side door. Members expressed support for this project. It was suggested having an outreach program for handicapped campers at Camp Allyn first, and then invite camp participants to attend a program at COC. Leo will contact organizations serving the handicapped for suggestions as to how to make the telescope accessible. He will also contact organizations looking for funding opportunities to cover the expense of the equipment.
- Dave Bosse requested funding to purchase an eyepiece kit and materials to make a base for the new 8" Dobsonian telescope; also one of the 6" Dobsonians needs a 90° RA finder. Dave requested \$400 for these supplies; the motion was made and passed unanimously.

Next FOTO Meeting: On Thursday, July 7, we will have the FOTO Summer Cookout in lieu of the regular monthly meeting. Bring your own meat to grill and a dessert or side dish to share (optional). FOTO will provide the grills, drinks and condiments. Plan to arrive around **6PM** (instead of the regular 7:30pm start time).

Did You Know....

Some Kuiper Belt objects move in clockwork with Neptune. Pluto for example, takes 1-1/2 times as long as Neptune to orbit the Sun.

Welcome
New & Renewing
Members!



Larry Brown and Cristina Gutierrez
John Ciliege
David & Karen Cody
David & Karen Costello
Angie Cox
Jane Daly
Tim & Patricia Decker
Kevin Dees
Leslie and Ralph Demoret
Jennifer Easley
Jack Gobel
Julie Gross
Edith Heilmann
Jennifer Hogan
Jamie Huber
Bill Hughett
Catherine Ivins
Ann & William Jett
Doug Kemper
David Kramer
Jim & Mary Krause
Gloria Lane
Rhonda Lindon-Hammon
Seth Lubic
Linda Lee Magee
Jacqueline Milliern
Mellen Moors-Dressing
James Morrow
Rachael Rose

Kim Salit
Reuben Smith
Lauren Storer
Marc Tepe
Priscilla Thompson
Robert & Rebecca Tompkins
John Ventre
Alicia Wilhelmy
Laurie Wood
Gwendolyn Yip
John Zeszut

FOTO Planning Meeting

By Dale Zoller

The next FOTO Planning Meeting is scheduled for **Thursday, July 21, 2011** at 6pm at the Observatory. The meeting generally lasts a couple hours. The planning meetings are open to all FOTO members. We encourage your participation in the discussion of future FOTO activities.

UC Communiversity

By Craig Niemi

Classes for life-long learners taught by Observatory's talented staff and volunteers. The courses have been very popular with members since they offer a more in-depth presentation than our usual Astro Thursday or Friday programs.

July 5th

Behinds the Scenes at the Observatory- John Ventre

August 10th

Inside A Telescope -Leo Sack

August 23rd

Stargazing 101-Dean Regas

August 29th

Comets & Meteors-Basil Rowe

Cost per course: \$18

To register or information on future classes:

Call UC at 513-556-6932

www.uc.edu/ace/commu/

More Free Stargazing: Keener Park & Caesars Creek Stargazes

By Craig Niemi

Free public stargaze hosted by astronomers from the Miami Valley Astronomical Society, the Cincinnati Astronomical Society and the Cincinnati Observatory. The stargazes begin at dusk. Come on out and join the fun!

**Keener Park, Barrett Road in
West Chester**

Saturday, September 10th

Caesars Creek Stargazes

Saturday, July 9th

Saturday, August 13th

FOTO Board Members

President: **Dale Zoller**, 2011*
V. P. **Rebecca Schundich**, 2011
Treasurer: **Jo Anne Pedersen**, 2011
Secretary: **Michelle Lierl Gainey**, 2011
COC-FOTO Representative: **Scott Gainey**, 2011

Board of Trustees

Frank Huss, 2012
David McBride, 2012
Jim Groen, 2011
Dave Bosse, 2011

*Notes year term expires

Did You Know....

A jet of gas is spewing from a massive black hole in the center of the M87 galaxy. The gas fades and brightens, with a peak that even outshines the galaxy's core. The outburst is coming from a blob of matter, dubbed HST-1, and scientists are so far at a loss to explain its weird behavior.

Craig's Corner

By Craig Niemi

Well, the summer solstice just passed- not that you could tell with all the clouds and rainy weather-signaling the long, lazy days of summer.

This should mean a bit of a break for **Dean and Leo** after two record breaking quarters of working with students and teachers. Then again, maybe not.

Over the past several summers the Observatory has witnessed a steady growth in summer program attendance.

This summer Dean and Leo will be busy with two Astronomy Summer Camps, Snakes in Mythology, the second of two Teacher Professional Development workshops, UC Communiversit classes as well as home school groups, scouts, programs for other's camps and more. Our volunteer educators are also going to stay busy with increased numbers of "staycation" visitors on Thursday and Friday nights, special COC programs and rentals, Stonelick and other off-site stargazes and lending a hand to Dean and Leo.

Our thanks to everyone for supporting the Observatory's programs! Hopefully everyone will get a chance to relax a bit soon.

On a sad note we read in the Enquirer that **Judy Ruthven** had suddenly passed away. As you saw in the annual report, she and John had recently dropped in for a visit to the Observatory to see how our restorations and programming had come along.

She was in large part responsible for the restoration of Memorial Hall and was very active with the Ohio Historical Society, the Cincinnati Preservation Association and served on several boards, including our friends the Cincinnati Nature Center and William Howard Taft Birthplace.

You can read more about all her tremendous work for the community at www.legacy.com. Our thoughts and prayers go out to her family and friends.

New Dean Regas Classes

In February, Outreach Astronomer Dean Regas began a series of Intermediate-level classes for members that met once a month. The series covered the advances of astronomy from the earliest days until 1608 (the invention of the telescope). Now Dean is going to share the rest of the story from 1608 to the present and he invites you to join the NEW members' classes. The classes will meet on the third Tuesday of every month from July-November.

For more information on the topics covered and to register please call Dean at 513-321-5186. Space is limited.

Did You Know....

Jupiter gives off twice as much heat as it receives.

Bring Your Scouts to the Observatory

By Craig Niemi

Looking for a unique place to visit with your scout troop? Looking for a program that fulfills your badge requirements? Looking to, well... LOOK through a giant telescope? The Observatory has you covered. Outreach Educator Leo Sack has expanded the Observatory's offering of Scout programs with 1 and 2 hours programs designed to fulfill Scouts' insatiable curiosity. Check the website's Education Programs/ Scout programs for more information.

Do You Have Children Who Can't Get Enough Astronomy?

By Craig Niemi



Send your kids into outer space this summer!

The Cincinnati Observatory summer camp is the perfect adventure for your "spacey" students to learn about and do astronomy at a unique, working observatory in the heart of the city. Campers will explore the Moon, solar system, and beyond while using the historic telescopes at the Observatory. The camp combines safe solar viewing with nighttime viewing of the planets, star clusters, and nebulae. Our campers truly become astronomers for the week.

For ages 8-12 years old: July 11-14 (July 11 & 12, 10am-2pm
July 13 & 14, 6-10pm)

For ages 10-15 years old: August 1-4, 6-10pm

Cost: \$175 per camper, \$160 for members

A Limited Number of Scholarships are available.

Reservations are required - space is limited. For further information or to register, please call Dean Regas or Leo Sack at 513-321-5186.

Did You Know....

Unlike Earth, Venus has no magnetic field to protect itself from the solar winds. As a consequence, it has 100 tons of atmosphere torn away each day by the Sun's solar winds.

Summer Workshop for Teachers

By Craig Niemi

In partnership with Xavier University, the Observatory is hosting two graduate-level courses this summer. The first, *Space Science for Educators*, ran in June.



*Cross-Curricular Science Topics
M-F July 25-29, 6-11pm*

The focus of the *Cross-Curricular Science Topics* workshop is to assist teachers in using astronomy as a vehicle for teaching math, history/social studies, language arts, and fine arts. Topics include applications of astronomy to 5th-12th grade math; local, national, and world history; geography; ancient mythology and modern literature; and 2- and 3-dimensional functional art.

The workshop may be taken for 1-3 credit hours at \$405 per credit hour (a greatly-reduced rate) or for non-credit at \$100. All classes will be held at the Cincinnati Observatory and include use of the historic telescopes.

New Lone Worlds

Astronomers have discovered a new class of planets floating alone in the dark of space. These lone worlds are probably outcasts from developing planetary systems and, moreover, they could be twice as numerous as the stars themselves.

FULL STORY at

http://science.nasa.gov/science-news/science-at-nasa/2011/18may_orphanplanets/

My Experiences at NASA

By Craig Niemi



Back in May, visitors to David Rutishauser's talk on his experiences working for NASA, got a behind-the-scenes look at the tremendous work and talents of the individuals that in many ways represent the goals of STEM (Science, Technology, Engineering and Mathematics) education.

David is currently a Flight Software Engineer for the Space Shuttle Program at NASA Johnson Space Center. He's a Cincinnati native, a graduate of Purcell Marian High School, and former student of COC Board president Dr. Michael Flick.

David and his wife also brought along artifacts from the Apollo and Shuttle programs that gave a glimpse of what it must be like to live and work in space.



Valerie Niemi & "Her Spacey Mom"

Did You Know....

Lightning on Venus occurs so often that it is speculated that, were colonization to ever occur on Venus, lightning would be a primary power source.

FOTO Teens

By Dean Regas

The July meeting for FOTO Kids and FOTO Teens is moving dates and locations. Instead of our usual first Friday meeting at the Observatory, we will meet on the first Saturday (July 2) at Stonelick State Park. On July 2 join us farther away from the city lights to see a lot more stars and maybe even a glimmer of the Milky Way. FOTO members will have telescopes set up at dusk so arrive any time around then.

NOTE: the program will occur only if clear. If it's cloudy or raining the program will be canceled.

For more information and directions to Stonelick State Park, please visit our website: <http://www.cincinnatiobservatory.org/freestargazes.html> or call Leo Sack at 513-321-5186. It's a great way to see a variety of telescopes and deep space objects. You won't need to bring a telescope – just bring your observing skills.

Did You Know....

Before 1990 the Kuiper Belt was unknown. Today more than 1,100 Kuiper Belt objects have been discovered.

Big Trouble Brewing?

In Sept. 1859, on the eve of a below-average solar cycle, the sun unleashed one of the most powerful storms in centuries.

Last month researchers and policy makers met in Washington DC to ask themselves, What if it happens again?

FULL STORY at

http://science.nasa.gov/science-news/science-at-nasa/2011/22jun_swef2011/

It's Official Dean Regas, Star Gazer

Maybe you've seen him on TV late at night talking about Saturn... but after filming five months as guest host of Star Gazer, Dean Regas is now the permanent co-host. Star Gazer is the iconic observational astronomy program that was made famous by the late Jack Horkheimer.



The show, filmed by WPBT in Miami, Florida, appears nightly on over 90 PBS stations around the world. Horkheimer, with his distinctive voice, mannerisms, and Member's Only jacket was a staple on late night television. Dean, along with co-host James Albury from the Kika Silva Pla Planetarium in Gainesville, Florida will co-host a reformatted version called Star Gazers.

"I'm thrilled to be a part of this program," Regas said. "It's unbelievable to be following in Jack's footsteps, and to stand on his light beam to share my passion for the stars."

You can see Dean on classic Star Gazer during the months of July and September. The new and improved Star Gazers will air on October 3 and feature both hosts among the stars. But both stations run the

program at other times when they can squeeze it in.

In the Cincinnati area, Star Gazers appears on WCET channel 48 at 12:55am, Monday through Friday and on ThinkTV channel 14 at 8:55pm or 9:55pm.

If you don't get Star Gazer where you live, contact your local PBS station and ask for it by name.

The program is free for anyone to broadcast. Plus past episodes are archived at:

http://www.jackstargazer.com/JHSG_DNLD.html Tune in and "Keep Looking Up!"

Enjoy the Summer at Stonelick State Park



July 2nd & 23rd and Aug 20th

The stargazes are free and open to Observatory members, teachers, scouts, and the general public wanting to learn the night sky, learn how to use their telescopes, or research which scope is best for them, all while enjoying the company of Observatory members. Stargazes are held "clear skies" only. Check the website's Public Events/ Free Stargazes or Calendar Pages for any updates.

Observatory Surplus Free to a Good Home

By Dave Bosse

Over the years... no, over the decades... no, over the centuries, the Observatory has collected a fair number of pieces of astronomical equipment from donations, gifts, and other acquisitions. Certainly more accumulated than could ever be used for programs at the Observatory.

The real problem is that there is fair amount of space in the basement of the Herget building occupied by this surplus that could be best used for other purposes. As part of the *Telescope Loan and Re-home* program, FOTO is looking to *re-home* this equipment to bring space to the Observatory (the O usually brings space to our visitors). Otherwise, it's heading for the recycle bin.

The material currently on the chopping block is a dozen or so telescope piers and tripods from the 60's, 70's and 80's. Some with equatorial heads, some without. Some with cradles, some without. Some with drives, most without.

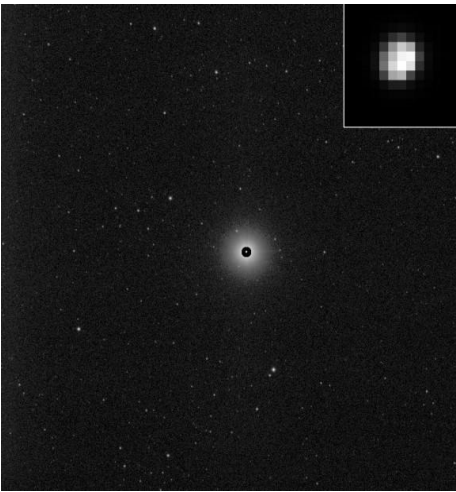
You get the picture. Perfectly good in their day (the days of over-engineering) and definitely reusable (ATMers listen up!), but don't be looking for a GoTo mount in this mix. This is best described as "good 'ol' stuff," free to a good home of any COC member willing to try to put it to use.

The "good 'ol stuff" inventory can be given the once-over at the FOTO picnic or at the August meeting. We're not going to keep it around forever, so come check it out.

Did You Know....

Our Sun gets 10% hotter every billion years.

Dawn Begins Approach to Asteroid Vesta and Snaps First Images



Dawn's First Glimpse of Vesta – Processed. This image, processed to show the true size of the giant asteroid Vesta, shows Vesta in front of a spectacular background of stars. It was obtained by the framing camera aboard NASA's Dawn spacecraft on May 3, 2011, from a distance of about 1.2 million kilometers (750,000 miles).

Since Vesta is so bright that it outshines its starry background, Dawn team members commanded a long exposure time to make the stars visible. They corrected the resulting exaggerated size of Vesta by superimposing a short exposure image of the target asteroid, showing its true size. Vesta is the small, bright pearl in the middle of the image.

NASA's revolutionary [Dawn Asteroid Orbiter](#) has begun the final approach phase to the giant asteroid Vesta and snapped its first science image. The image was taken on May 3, when Dawn was approximately 1.21 million kilometers (752,000 miles) distant from Vesta using the science imager known as the Framing Camera. <http://www.universetoday.com/>

Slithering Across the Sky

Snaky Mythology at the Observatory

Wednesday, July 6
9 pm

By Dean Regas

Snakes are in the stars - at least according to the ancients who outlined the constellations. This program will give the sinuous stories of the many scaly creatures inhabiting the night sky. Learn the tales of the many-headed Hydra, Draco the Dragon, the doctor strangled by serpents; Medusa's wriggling hair, and many more.

Attendees will also have the opportunity to learn about these fascinating creatures live and in-person. Herpetologist Brian Gill from Cool Critters Outreach (www.coolcrittersoutreach.com), a Finneytown-based, animal rescue/education group will be on hand with a number of exotic snakes of many breeds and all sizes.

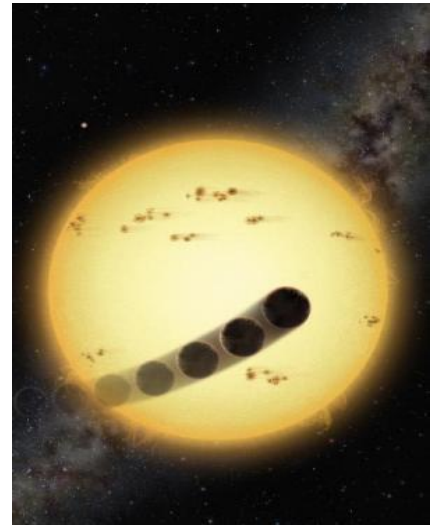
This program is great for all ages. \$10/adults, \$5/kids

Reservations required by calling 513-321-5186.

Asteroid Flyby

Newly-discovered asteroid 2011 MD passed only 12,000 kilometers (7,500 miles) above Earth's surface on Monday, June 27th. NASA analysts say there was no chance the space rock would strike Earth. Nevertheless, the encounter is so close that Earth's gravity will sharply perturb the asteroid's trajectory. Details at <http://spaceweather.com>

How 'Hot Jupiters' Got So Close to Their Stars



The transiting giant planet orbits very close to the star and in a direction opposite to the stellar rotation. This peculiar configuration results from gravitational perturbations by another much more distant planet (upper left).

More than 500 extrasolar planets -- planets that orbit stars other than the sun -- have been discovered since 1995. But only in the last few years have astronomers observed that in some of these systems the star is spinning one way and the planet, a "hot Jupiter," is orbiting the star in the opposite direction.

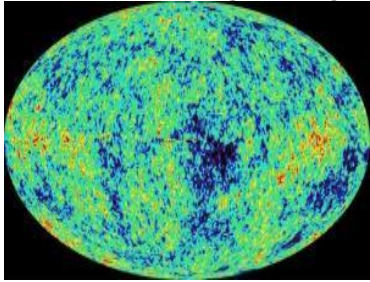
That's really weird, and it's even weirder because the planet is so close to the star. How can one be spinning one way and the other orbiting exactly the other way? It's crazy. It so obviously violates our most basic picture of planet and star formation.

<http://www.sciencedaily.com/releases/2011/05/110511134213.htm>

Did You Know....

The Andromeda galaxy consumes smaller galaxies which get too close. Andromeda is about 2.5 million light years from Earth, and astronomers say it's headed toward our way!

Carbon, Carbon Everywhere, but Not from the Big Bang



Afterglow of the Big Bang. A full-sky map of the oldest light in the universe. Colors indicate "warmer" (red) and "cooler" (blue) spots. The oval shape is a projection to display the whole sky; similar to the way the globe of the earth can be represented as an oval.

The event that jump-started the universe, the Big Bang, didn't actually produce any carbon, so where the heck did it -- and we -- come from? An NC State researcher has helped create supercomputer simulations that demonstrate how carbon is produced in stars, proving an old theory correct. <http://www.sciencedaily.com/releases/2011/05/110511131134.htm>

Cassini Samples the Icy Spray of Enceladus Water Plumes

The NASA/ESA/ASI Cassini-Huygens mission has directly sampled the water plumes jetting into space from Saturn's moon Enceladus. The findings from these fly-throughs are the strongest evidence yet for the existence of large-scale saltwater reservoirs beneath the moon's icy crust.

The salt-rich particles have an 'ocean-like' composition which indicates that most, if not all, of the expelled ice comes from liquid saltwater.

<http://www.sciencedaily.com/releases/2011/06/110623085636.htm>

Ultimate Educators Expo! September 13th 2-6pm



By Craig Niemi

Cincinnati Zoo & Botanical Garden
Harold C. Schott Education Center

This is a fun, free afternoon for teachers of all grades and subjects to learn about the resources provided by the **Greater Cincinnati Environmental Educators**.

GCEE member organizations (including the Observatory) provide programming to both formal (K-12) and non-formal audiences (youth and adults).

Since its inception, GCEE has served dozens of environmental education professionals, hundreds of classroom educators and thousands of Greater Cincinnati school children by providing resource fairs, education workshops, classroom programs and field trips. <http://cincinnati-zoo.org/education/schools-teachers/professional-development/other-professional-development/ultimate-educator-expo/>

Cassini Captures Saturn's Icy Moon Helene

NASA's Cassini spacecraft has successfully completed its second-closest encounter with Saturn's icy moon Helene, beaming down raw images of the small moon. At closest approach, on June 18.



By Craig Niemi

MHSGC is a coalition of small museums, historical sites and societies located in Southwest Ohio, Northern Kentucky and Southeast Indiana.

Many organizations are seasonal so you'll want to make plans to visit several that are new to you this summer and fall.

You can find more venue and program information at www.historicgreatercincinnati.org or on Facebook.

The Observatory's participation in the coalition has opened the doors to many tremendous resources including NKU's *Museums without Walls* program.

<http://nkupublichistory.com/mwow/>

A2Z+ Astronomy Class Restarts Aug. 14

By Dave Bosse

The A2Z+ class continues its summer break for another month. We will be meeting in August, to be sure, with a most interesting discussion about Kepler and Newton, but more on that next month. For July, we will not be meeting. The A2Z+ Astronomy class meets on the second Sunday of the month (most months) at 7:00 PM at the Observatory. See you on August 14th! (Don't forget about the FOTO picnic!)

Did You Know....

The density of Saturn is less than the density of water.

A Big Surprise from the Edge of the Solar System

NASA's Voyager probes are truly going where no one has gone before. Gliding silently toward the stars, 9 billion miles from Earth, they are beaming back news from the most distant, unexplored reaches of the solar system.

Mission scientists say the probes have just sent back some very big news indeed.

It's bubbly out there.

"The Voyager probes appear to have entered a strange realm of frothy magnetic bubbles," says astronomer Merav Opher of Boston University. **"This is very surprising."**

According to computer models, the bubbles are large, about 100 million miles wide, so it would take the speedy probes weeks to cross just one of them. Voyager 1 entered the "foam-zone" around 2007, and Voyager 2 followed about a year later. At first researchers didn't understand what the Voyagers were sensing--but now they have a good idea.

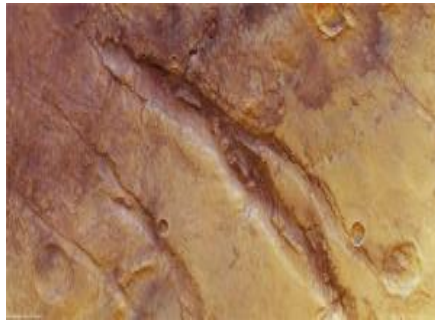
[http://science.nasa.gov/science-news/science-at-](http://science.nasa.gov/science-news/science-at-nasa/2011/09jun_bigsurprise/)

[nasa/2011/09jun_bigsurprise/](http://science.nasa.gov/science-news/science-at-nasa/2011/09jun_bigsurprise/)

Comet Fireball

Bright fireballs appear somewhere on Earth every day. Most are caused by rocky asteroids. On Friday, May 20th, however, a less common object struck. Sky watchers in the southeastern USA watched a big but fragile piece of comet break apart in Earth's atmosphere. The resulting fireball was the brightest meteor observed in nearly 3 years by NASA's all-sky network of meteor cameras.

Mars Express Sees Deep Fractures on Mars



Newly released images from the European Space Agency's Mars Express show Nili Fossae, a system of deep fractures around the giant Isidis impact basin. Some of these incisions into the Martian crust are up to 500 meters deep and probably formed at the same time as the basin.

<http://www.sciencedaily.com/releases/2011/05/110506100931.htm>

Gigantic Storm Ravages Saturn

A storm of rare power has formed in Saturn's northern hemisphere. Wreaking havoc for months, it now stretches around the entire planet and can be seen through backyard telescopes.

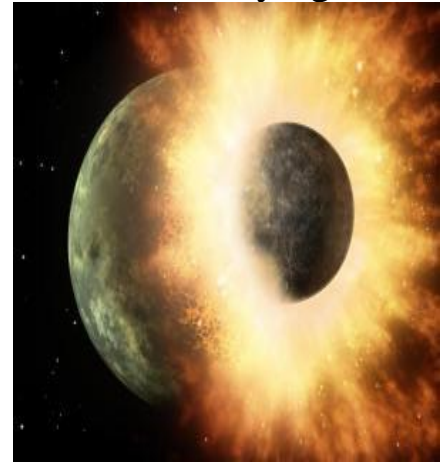
FULL STORY at

http://science.nasa.gov/science-news/science-at-nasa/2011/19may_saturnstorm/

Electric-Blue Clouds

The 2011 noctilucent cloud (NLC) season has begun. For the past few nights, observers in northern parts of Europe have spotted velvety, electric-blue tendrils rippling across the sunset sky. NLCs are a summertime phenomenon first reported by polar observers in the 19th century. In recent decades, for reasons no one fully understands, the clouds have intensified and spread as far south as Utah and Colorado. <http://spaceweather.com>

Planet Smash-Up Sends Vaporized Rock, Hot Lava Flying



This artist's concept shows a celestial body about the size of our Moon slamming at great speed into a body the size of Mercury. NASA's Spitzer Space Telescope found evidence that a high-speed collision of this sort occurred a few thousand years ago around a young star, called HD 172555, still in the early stages of planet formation. The star is about 100 light-years from Earth.

NASA's Spitzer Space Telescope has found evidence of a high-speed collision between two burgeoning planets around a young star.

Astronomers say that two rocky bodies, one as least as big as our **MOON** and the other at least as big as Mercury, slammed into each other within the last few thousand years or so -- not long ago by cosmic standards. The impact destroyed the smaller body, vaporizing huge amounts of rock and flinging massive plumes of hot lava into space.

<http://www.sciencedaily.com/releases/2009/08/090810161208.htm>

There Will Be More
A2Z+ Astronomy in
August By Dave Bosse