

Observatory News

December 2008
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Coming Up At The Observatory....

Dec 1st Triple conjunction
Dec. 4th FOTO holiday party
Dec 5th FOTOKids
Dec 6th Astro Saturday
Dec 14th *Luminaria Night*
open house
Dec 14th History Tours.
Dec 17th 3rd Wednesday
astronomy lecture series
Dec 21st Winter begins
Dec 26th Astro Friday
Jan 2nd FOTOKids
Jan 8th FOTO monthly
meeting
Jan 10th IYA 2009 kickoff
event
Jan 11th History tours.
Jan 21st 3rd Wednesday
astronomy lecture series
Jan 25th History tours.

Call 513-321-5186 for times
and more info.

The Word from FOTO's President Zoller

First, I would like to thank outgoing FOTO president Dave Bosse for his service to FOTO the past two years. His will be a tough act to follow.

As I write my first column as president of FOTO, I'm sitting here with a cup of "Observatory Blend" coffee from Lookout Joe's as inspiration. Please consider picking up a few pounds to use as stocking stuffers for the upcoming holiday season. Every purchase benefits the Observatory and strengthens our relationship with a great supporter of the Observatory.

The month of December provides many exciting opportunities for FOTO to bring astronomy to the public. First up is the conjunction of Venus and Jupiter on November 29 and the pair along with the Moon on December 1st. Dean has programs scheduled for November 30 and December 1st. We are anticipating large crowds, so

please consider coming to the Observatory to help out.

On Sunday, December 14, the Observatory will participate in the Mt. Lookout "Luminaria" event. The Observatory will host an Open House with tours and viewing from 6-10pm.

The "Third Wednesday" lecture series continues on December 17 with a program by Richard Hamilton titled "Atomic Structure 101." The lecture begins at 7pm and is free for members (\$5 for non-members), so come out and see what you (and everything else) are made of.

Of course you don't want to miss the annual Volunteer Appreciation dinner, scheduled for Thursday, December 4 at 6:00 pm. The dinner is held to thank all our FOTO volunteers for their countless hours of service to the Observatory. It is always a fun event and a great way to connect with other volunteers. Please register for the event by phoning Rebecca Shundich at 513-533-3449 or email her at Rebecca.shundich@cchmc.org.

The upcoming year promises to be very exciting for astronomy in general - and the Observatory in particular. The year has been designated the "International Year of Astronomy" in recognition of the

400th anniversary of Galileo's scientific use of the telescope. The Observatory plans to participate in several events marking the occasion. The "40 Galileos" project will attempt to put up to 40 telescopes in the hands of qualified astronomy enthusiasts. In addition, the Paul Nohr sundial is virtually complete and will hopefully be dedicated around the Spring equinox. Of course, July 2009 will mark the 40th anniversary of the first lunar landing (where were you in '69?). Through all of this we will be depending on our great team of FOTO volunteers to engage the public and share our knowledge and enthusiasm for astronomy and the Observatory. Clear skies!
Clear skies will always help.

FOTO's December Meeting

By Dale Zoller

On December 4th we will have the Volunteer Appreciation dinner instead of the regular FOTO membership meeting. As the first Thursday in January 2009 is New Year's Day, **January's FOTO meeting has been moved to Thursday, January 8, 2009** at 7:30pm in the west wing of the Herget Building at the Observatory. We also have an informal group that meets for dinner before the general meeting around 6pm at Panera Bread in Hyde Park Plaza. Hope to see you there!

November FOTO Meeting Highlights

The main topic of discussion at November's meeting was the plan to increase the Observatory's staffing. Due to the ever increasing load of community outreach (a good thing), there is a plan to add another educator to assist Dean, a development specialist (fund raiser), a membership coordinator and a

part-time administrative assistant. Funding for the positions has not been finalized, but could come from several sources. It is hoped that the positions will eventually fund themselves.

John Ventre reported on the Observatory's award from the Cincinnati Preservation Society. We all owe John a huge "thank you" for all his work with coordinating the preservation efforts at the Observatory and for submitting the application for the award.

The good news continues. Based on an application by Dean and Craig, *Astronomy Magazine* has awarded the Observatory \$2500 for the "40 Galileos" project. The aim of the project is to get up to 40 telescopes into the hands of deserving educators. Applicants must complete required training and commit to using the telescopes for outreach programs. Additional sources of funding are still being sought.

Unfortunately, Dr. Nick Abel was unable to give his talk on "Molecules in Space." Instead, **John Ventre** gave his great hands-on "Meteoritous" presentation. Thanks to John to filling in at the last minute. We'll try to re-schedule Dr. Abel for early next year.

FOTOKids Meeting

By Dean Regas

FOTO Kids had a great time and a great turnout at the NKU Planetarium in November. Special thanks to Dr. Ray McNeil for showing us some of the awesome capabilities of the planetarium.

This month we will be meeting back at the Observatory on Friday December 5 at 7pm. Please dress warmly because if it is clear we will be outside looking and the Moon and planets Jupiter and Venus. If you have any questions please call Dean Regas at 513-321-5186.



It's December and that means only one thing, send a letter to Santa!

Dear Santa,

I have been a good boy this year. So now I am making out my Christmas wish list. I thought I would give you some examples of the new toys that I want.

I would like a new shiny solar telescope. I know there are several on the market to choose from. So, I have been studying the specifications and have narrowed the list down for you. I really want to observe the Sun in Hydrogen Alpha light and a telescope of 50 to 60 millimeters of aperture with a bandpass of 0.7 to 0.5 angstroms will provide great views of the Sun.

The SolarMax telescopes from Coronado, or the Lunt Solar Systems telescopes, or the SolarREDi scope from Daystar will make me extremely happy. These dedicated solar telescopes can be used for direct solar observing as well as solar imaging.

So Santa, please bring me one of these new toys this year.

Your best friend, Steve

Planning Meeting

By Dale Zoller

There will NOT be a Planning meeting in December 2008. The next Planning meeting is scheduled for **Thursday, January 22, 2009 at 6pm** at Panera Bread in Hyde Park Plaza. The meeting generally lasts a couple hours. The Planning meetings are open to all FOTO members. We encourage your participation in planning future FOTO activities.

Craig's Corner

By Craig Niemi, Observatory
Executive Director

Happy Holidays from the Observatory!

Thanks to your many volunteer hours, membership contributions and generous gifts the Observatory has had another terrific year. We offer our heart-felt thanks to all for your tremendous support of this unique place. Everyday I marvel at the great work that is being done toward every aspect of our mission of "Education, Restoration and Preservation". And my thanks to the Observatory's hard working staff, which are few in number, but limitless in their energy and enthusiasm.

To celebrate the holidays we hope you'll bring friends and family to the upcoming *Luminaria Night* on December 14th. Samuel Hannaford's old building takes on a special charm when decorated for the holidays and we hope you'll join in all the festivities.

Looking ahead to 2009, the Observatory is planning programs, special events and fundraising opportunities to take full advantage of the International Year of Astronomy. IYA 2009 is a global celebration of astronomy and its contributions to society and culture, highlighted by the 400th anniversary of the first use of an astronomical telescope by Galileo.

The Observatory's signature project for IYA 2009, "*40 Galileos, Starry Messengers*" has already been recognized by *Astronomy Magazine* for its innovation. *40 Galileos* mission is to encourage kids into science-based careers and celebrate their achievements by awarding them with recognition, a quality telescope and training to become astronomy ambassadors; to celebrate astronomy's central role in all the sciences and its power to

inspire students of all ages and to advance astronomy education in the Cincinnati area.

The Cincinnati Observatory will honor the 400th Anniversary of Galileo's scientific use of the telescope and the 40th Anniversary of the Apollo 11 Moon landing by celebrating the importance of Astronomy and Science Education to grades K-12. We will award 40 quality telescopes and training to 40 deserving individuals so that they can return to their schools and/or communities to share the wonders of science/astronomy by presenting at least two astronomical programs.

For more information on *40 Galileos* and how you can be involved or support this groundbreaking project contact Dean.

Hope to see you at the Observatory this December!

Wednesday Lecture Series

By Craig Niemi

There is real astronomical research going on right in your community's backyard. The Wednesday Lecture Series showcases some of the considerable talent in our own town that is doing cutting edge astronomical research and is active in education. The lectures will be held on the 3rd Wednesday of each month at 7pm. They are free to members and open to the general public for \$5.

Coming up on December 17th COC Staff Scientist & Xavier professor **Richard Hamilton** will help us peer into the heart of the smallest structures in the universe. "*Anatomy of the Atom, an introduction*" will show how astronomers know what they know about the individual atoms that make up everything and how that knowledge reveals some of the universe's deepest secrets.

Reservations are suggested. Call 513-321-5186 to RSVP.

Luminaria Night

The 3rd annual Observatory Holiday Open House is **Sunday, December 14th from 6:00-10:00 pm**. There will be music, tours and telescope viewing.



We are again partnering with the Mount Lookout Business Association and the Mount Lookout Neighborhood Association as part of the 32nd annual *Light Up Mt Lookout Luminaria*. There will be shuttle busses running from Mt Lookout Square to the Observatory and back, a good time to take in the beautiful sights of the luminaria. Businesses on the square will be open and have special offerings. Santa will make an appearance on the square and traditional carols will be sung.

Back at the Observatory enjoy festive treats and hot chocolate and carols. The gift shop will be open for out-of-this world holiday gifts. Observatory memberships are the perfect gift for the astronomer, student or teacher on your gift list!

FOTO Stonelick Lake Star Parties

By Scott Naylor

The next scheduled Stonelick Star Parties will be **Saturday, December 20th and December 27th**.

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

Paul Nohr Memorial Sundial

By Craig Niemi

Although the official dedication will await warmer weather this spring, the Paul Nohr Memorial Sundial has seen its first group of students.



Fifth graders from St. Louis School got a primer from Dean on the motions of the Sun and the Earth as well as an introduction to one of the earliest forms of time-keeping. Just as we had hoped when designing the site, the students could hardly wait for their turn to act as a gnomon and cast their shadow across the face of the sundial. The Sundial received a “Thumbs-Up” from the class.

Dean’s On the Radio

Listen in for the Cincinnati Observatory Minute with **Dean Regas** which runs through December on WMKV 89.3 between 7:35-7:40am. You can also listen in on www.wmkvfm.org

Did You Know....

Einstein’s theory of relativity says that if the vacuum’s mass density is more than half the universe’s matter density, then space has a negative pressure. That means there will be a time when the universe’s matter density drops to half the vacuum’s mass density. The result: accelerating expansion that pushes galaxies away from each other at an ever increasing rate.

A Picture from the Past



By John Ventre

This picture shows the inside of the Mitchell Observatory between 1906 and 1912, probably closer to 1906.

Thanks to **Dean Regas** who recently found this photograph hanging on the wall of an old bookstore on Madison Avenue.

It shows the then newly acquired T. Cooke & Sons, England, triple Astro-Photographic objective of 9-1/2 inches aperture mounted on a 67.7-inch focal length camera, so that one millimeter on the photographic plate equals to two minutes of arc in the sky, and the field of view was 15 degrees in diameter. The camera is piggy-back mounted onto the 11-inch Merz & Mahler refractor telescope. The camera was purchased by Dr. Jermain G. Porter, Director of the Observatory, to photograph comets, nebula and asteroids.

In the early 1950's Dr. Paul Herget, Director of the Observatory, loaned the camera to the Indiana University for their "lost" asteroid program that was operated by IU's Dr. Edmondson, who would attempt to photographically re-discover the lost asteroids after Dr. Herget calculated their anticipated location.

Also notice that the telescope's manual clock drive is mounted on the east side (near side) of the telescope, right above the main drive wheel. The current electric clock drive is currently mounted on a shelf on the telescope's pier. An observer's clock is mounted on the observatory's west wall and you can see that the dome was rotated with a manual crank, since the Observatory was constructed before electric service was available to the site. Also notice the window on the north wall (right side of picture). Today there is a small door, replacing the window, that leads to the Cone Observatory.

We are delighted to have acquired this photograph since it is our first view of the telescope's manual clock drive, the clock on the wall, the manual dome crank, and the window that preceded the door. Thanks Dean!!!



Photo by Steve Rismiller at the Observatory of the planetary conjunction of Jupiter and Venus.

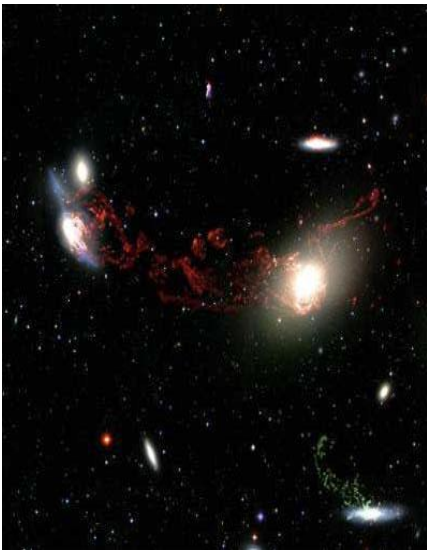
Trivia Question of the Month

By Greg Huber

What was the name of the first element that was launched to begin the space station (ISS)?

Answer to November’s trivia question: Tony England at 25 years old was the youngest ever person selected to be a U.S. astronaut.

Stars Stop Forming When Big Galaxies Collide



A deep image of part of the Virgo cluster revealing tendrils of ionized hydrogen gas 400,000 light-years long that connect the elliptical galaxy M86 (right) and the disturbed spiral galaxy NGC 4438.

Astronomers studying new images of a nearby galaxy cluster have found evidence that high-speed collisions between large elliptical galaxies may prevent new stars from forming, according to a paper to be published in November.

<http://spaceflightnow.com/news/n0810/07collision/>

More Results from Mars Lander Suggest Liquid Past

NASA's Phoenix Mars Lander has detected snow falling from Martian clouds, and spacecraft soil tests experiments also have provided evidence of past interaction between minerals and liquid water, processes that occur on Earth.

<http://spaceflightnow.com/news/n0809/29phoenix/>

Word of the Month

By Greg Huber

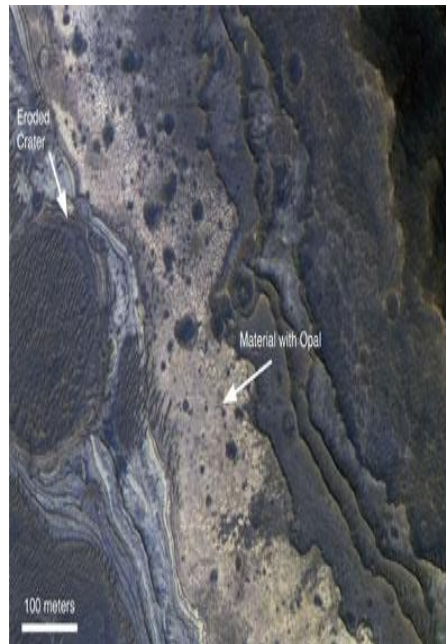
“Violent Relaxation”
(Sounds like an oxymoron HUH?)

Word for November

“Synchronous Rotation” is when a satellite spins on its axis at exactly the same time it takes to orbit its parent body.

The Moon is the most famous satellite with Synchronous Rotation, but there are many others.

NASA Orbiter Reveals Details Of a Wetter Mars



NASA's Mars Reconnaissance Orbiter has observed a new category of minerals spread across large regions of Mars. This discovery suggests that liquid water remained on the planet's surface a billion years later than scientists believed, and it played an important role in shaping the planet's surface and possibly hosting life.

<http://spaceflightnow.com/news/n0810/28marsopal/>

Solar System's Young Twin Has Two Asteroid Belts



This artist's conception shows the closest known planetary system to our own, called Epsilon Eridani. Credit: NASA/JPL-Caltech

Astronomers have discovered that the nearby star Epsilon Eridani has two rocky asteroid belts and an outer icy ring, making it a triple-ring system. The inner asteroid belt is a virtual twin of the belt in our solar system, while the outer asteroid belt holds 20 times more material.

Moreover, the presence of these three rings of material implies that unseen planets confine and shape them.

<http://spaceflightnow.com/news/n0810/27asteroidbelts/>

Did You Know....

Originally pegged to last three months, Phoenix on Mars lasted a little over five months, flexing its long arm to dig trenches in the soil and delivering dirt and ice to its onboard instruments to analyze.

By the end of its prime mission, Phoenix determined the soil was slightly alkaline, detected falling snow and found minerals that suggest the ice may have melted at some point, although the soil is currently bone-dry.

The Case of the Missing Gamma-ray Bursts



Oct. 22, 2008: Gamma-ray bursts are by far the brightest and most powerful explosions in the Universe, second only to the Big Bang itself. So it might seem a bit surprising that a group of them has gone missing.

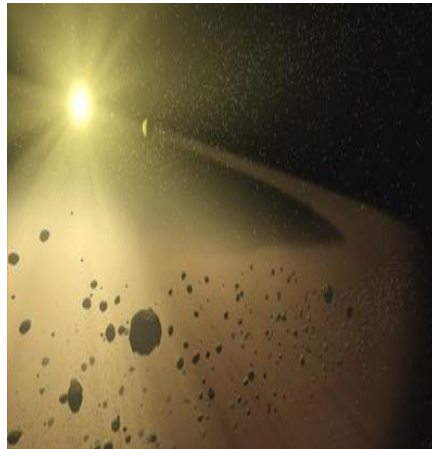
A single gamma-ray burst (GRB) can easily outshine an entire galaxy containing hundreds of billions of stars. Powerful telescopes can see them from clear across the Universe. And because the deeper you look into space, the farther back in time you see, astronomers should be able to see GRBs from the time when the very first stars were forming after the Big Bang.

Yet they don't. Gamma-ray bursts from that early epoch seem to be missing, and astronomers are wondering where they are. http://science.nasa.gov/headlines/y2008/22oct_missinggrbs.htm?list739819

Did You Know....

Galactic cosmic rays are subatomic particles accelerated to almost light speed by distant supernova explosions and other violent events. They swarm through the Milky Way, forming a haze of high energy particles that enter the solar system from all directions. Cosmic rays consist mostly of protons and heavier atomic nuclei with a dash of electrons and photons spicing the mix.

Meteorites' Magnetism Holds Clues To Planet Birth

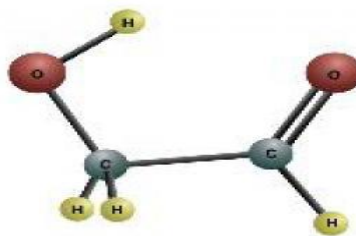


Planetary building blocks could have been differentiated into mini-planets with core, mantle and crust. Remnant magnetism from these planetesimals has been detected in ancient meteorites that fell to Earth.

Magnetic records frozen into the cores of ancient meteorites have provided fresh insight into the planetary forming conditions at the beginning of the Solar System. <http://www.astronomynow.com/081105meteoritesmagnetismholdscuestoplanetbirth.html>

Sweet Molecule Could Lead Us to Alien Life

Scientists have detected an organic sugar molecule that is directly linked to the origin of life, in a region of our galaxy where habitable planets could exist.



GLYCOLALDEHYDE

<http://www.sciencedaily.com/releases/2008/11/081125090344.htm>

For Sale

Meade ETX 125 5 inch Maksutov/Cassegrain with auto GOTO system.

This equipment is new and virtually unused in the original boxes. Dozens of accessories too numerous to list go with it; a total new cost of approx. \$2300.00, will accept offers around \$600.00

This is an outstanding deal and priced to sell quickly, much undervalued.

Also, a virtual new Celestron C90 Spotting scope; again with numerous accessories; original price \$450. will let go for \$200.

And a Blaho Sted-Vu Jr. Binocular Holder.....also unused; value \$325.00 will sell for \$200.00 A pair of Orion Binoculars 15 x 70 in leather case, will accept \$150.00 for these.

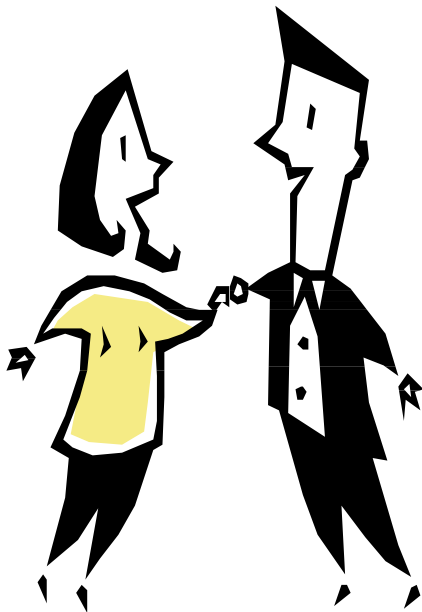
Must sell all items..... for more details etc., call Graham Davis at 513-673-9106.

Did You Know....



A starquake is thought to be the tearing apart of the surface of a neutron star, much like an earthquake here on Earth. In 1999 astronomers identified these bursts as the cause of gamma rays and X-rays coming from neutron stars. Predicting these powerful bursts has remained a mystery. Recently it was found that for a particular type of spinning neutron star called a pulsar, the time to the next quake is proportional to the size of the last quake.

Welcome
Renewing & New FOTO
and COC Members!



John & Doris Blades
Fred N. Bowman
John Bruggen
Carmel Buckley
Donald Campbell
Melissa Culyer
Mike & Lisa Debbeler
Warren & Gina Dorlac
Noah Fleischmann
Dan Haehnichen
Jeff & Reda Hutton
Steve Korach
Jan & Rob Krehbiel
Kevin Langston
Timothy Mathile
Eric Matt
John Merrick Jr.
Dieter Moeller
Jay & Therese Paul
Tony Picchioni & Family
Robert & Suzanne Sartarelli
Dorothy Schulz
Ellen Sewell
Bethany Slinger-Flege
Paul Sittenfeld
Bob Stothfang
Margaret Warminski
Dean Wochner

Dean Regas at the CSO



Dean gave a lecture as part of the "Classical Conversations" program prior to the Cincinnati Symphony Orchestra's performance of "Stargazing" featuring Holsts's "The Planets" on Saturday, November 22.



Photos by Marsie Newbold

Solar Wind Rips Up
Martian Atmosphere

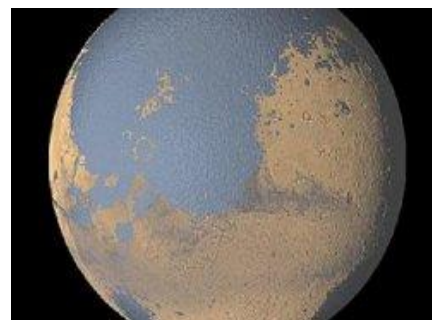
Researchers have found new evidence that the atmosphere of Mars is being stripped away by solar wind. It's not a gently continuous erosion, but rather a ripping process in which chunks of Martian air detach themselves from the planet and tumble into deep space. This surprising mechanism could help solve a longstanding mystery about the Red Planet.

"It helps explain why Mars has so little air," says David Brain of UC Berkeley, who presented the findings at the 2008 Huntsville Plasma Workshop on October 27th.

Billions of years ago, Mars had a lot more air than it does today.

(Note: Martian "air" is primarily carbon dioxide, not the nitrogen-oxygen mix we breathe on Earth.) Ancient martian lake-beds and river channels tell the tale of a planet covered by abundant water and wrapped in an atmosphere thick enough to prevent that water from evaporating into space. Some researchers believe the atmosphere of Mars was once as thick as Earth's.

An artist's concept of ancient Mars with abundant air and water.



Today, however, all those lakes and rivers are dry and the atmospheric pressure on Mars is only 1% that of Earth at sea-level. A cup of water placed almost anywhere on the Martian surface would quickly and violently boil away—a result of the super-low air pressure.

http://science.nasa.gov/headlines/y2008/21nov_plasmoids.htm?list739819



The End