COMING UP AT THE OBSERVATORY....

Stonelick Stargaze  Mar 1  dusk
Dean’s Astro class for members  Mar 3  7p
Astronomy Thursday Mar 6  8p
FOTOKids Mar 7  7p
Astronomy Friday Mar 7  8p
History Tours Mar 9  1-4p
**FOTO Meeting Mar 10  7:30p
Astronomy Thurs Mar 13  8p
Astronomy Friday Mar 14  8p
*UC Science Expo Mar 15 12-4p
Astronomy Thurs Mar 20  8p
Astrophoto Workshop Mar 20  7p
Astronomy Friday Mar 21  8p
5th Anniversary of the Paul Nohr Memorial Sundial Mar 23  1-4p
Astronomy Thurs Mar 27  8p
Astronomy Friday Mar 28  8p
Stonelick Stargaze Mar 29  dusk

** Note the monthly FOTO Members Meeting has moved to 2nd Mondays - 7:30pm at the Observatory

Save-The-Dates!
Marsapaloza Apr 10-12
1st Night Light Apr 13
Intro to Astronomy Apr 16, 23, 30
Astrophoto Workshop Apr 17
Saturn Saturday May 10

THE WORD

By Michelle Lierl Gainey

Hello friends!

At our February FOTO meeting, a vote was taken to change the Bylaws so that the meetings are no longer required to be held on the first Thursday of each month. The reason for this was to move the FOTO meeting to a different day so that the Observatory is free for public programs every Thursday. Based on the Survey Monkey poll taken through the newsletter, it seems that Monday evenings are the best day for the most members, so we decided to have FOTO meetings on the second Monday of the month. Thus, our next monthly meeting will be held on Monday March 10th, at 7:30 pm. Please mark your calendars for the second Monday of each month. I hope this will not pose a problem for too many of our previous Thursday evening attendees! But it seems there are some people who could not come on Thursdays and can come on Mondays, so we are looking forward to meeting you!

The first Astrophotography Class was given by Fred Calvert on February 20th and was an excellent introduction to the principles of astrophotography. Even I could understand it! If you missed the first class but want to participate in future classes, e-mail me (miler@fuse.net) and I will send you Fred’s slides from the first class. Following Fred’s instructions, I was able to “take” my first astrophoto using a remote telescope at New Mexico Skies (for free!). See my photo of the Whirlpool Galaxy below!

The telescope does all the technical work, so it is a no-brainer, but it was still a fun way to get started. The next class is on Thursday, March 20th at 7 pm. I know we
have many intelligent and talented members of FOTO. Many of you are knowledgeable about interesting astronomical or historical topics. If you would like to give a presentation at one of the FOTO meetings, feel free to contact one of our program committee members: Dave McBride, Tom East or John Blasing.

Saturday, March 8th is International Sidewalk Astronomy Day! This year, the event is held in honor of John Dobson, the father of sidewalk astronomy, who died in January at age 98. John Dobson has left a beautiful legacy of outreach astronomy, which we at FOTO are helping to carry on. I hope FOTO members will turn out in record numbers to hold sidewalk astronomy events on March 8th. Dean Regas is coordinating this event; please contact Dean if you are interested in participating.

The Red Planet Returns!
Mark Your Calendar for Marsapalooza 2014

April 10, 11 & 12th 9-11pm

The Cincinnati Observatory will open its doors and telescopes to the public while Mars is at its closest for the year. There will be Q&A about Mars, tours of our amazing buildings and history, and viewing through the two vintage 1845 and 1904 telescopes (weather permitting).

And we’ll have tips on how to observe the upcoming April 15 lunar eclipse too.

$7 per person. No reservations needed. Check out the What’s Up web page for any updates.

FOTO Kids and
FOTO Teens

By Aashi Mital

Thank you for the amazing turnout at February’s meeting! We saw some new faces in the room and were thrilled to share the world of Galileo with all of you. This month is bound to be just as exciting as we dive into the life of French astronomer Charles Messier and his astronomical catalogue. Be prepared for the adventurous challenge of our very own Messier Marathon!

Make sure that you dress for the weather, as we’ll be spending a great deal of time outside. Don’t worry! If the weather doesn’t cooperate, we’ll have plenty of fun activities to do indoors. We’ll see you in the Herget Building at the Observatory at 7 p.m. on Friday, March 7th.

Have questions? Don’t hesitate to email Aashi Mital (aashimital@gmail.com) or Aaron Eiben (aaron.eiben@gmail.com). Until then, stay warm and keep looking up!

Museums and Historic Sites of Greater Cincinnati

MHSofGC is currently comprised of over 30 participating sites across Greater Cincinnati. Each site offers a unique perspective on local history and culture through public programs, exhibits, lectures, and tours.

www.historicgreatercincinnati.org

50 For 50!

By Aashi Mital

As many of you know, the Cincinnati Observatory has been submitted as an entry for the Cincinnati Preservation Association’s “50 FOR 50!” Contest. They are celebrating their 50th Anniversary by selecting the top 50 buildings and historical sites that make Cincinnati unique. The list comes out April 10th, so we need to really go for it over the next few weeks! The higher up on the list we are, the greater the presence of the Observatory in the regional area.

The contest is through Facebook, but you don’t need to have Facebook to vote. All you have to do is go to the link (https://www.facebook.com/pages/Cincinnati-Preservation-Association/185964090342?v=app_448952861833126&rest=1). When you get there, click on “View Entries” option, select the picture of the Observatory, which opens a new page where the “Vote” option becomes available and hit the “Vote” button. Thanks for the support.

Greater Cincinnati STEM Collaborative

The Observatory is proud to be working with the Collaborative to further STEM education in our region. You can find out more at their new website! http://www.greatercincystem.org
Enrich Your Life With Quality Courses

April 21th  7-9p
Behind the Scenes
May 12th  8-10p
Stargazing 101
May 14th  7-9p
Mysteries of the Universe

All classes $22 per person (+ any materials fees.)
To register contact UC Communiversity at 513-556-6932 or www.uc.edu/ce/commu.html

Planning Meeting
By Michelle Gainey

The next FOTO Planning Meeting is scheduled for Thursday, March 27, 6 pm at the Observatory. The planning meetings are open to all FOTO members. We encourage your participation in the discussion of future FOTO activities.

Craig's Corner
By Craig Niemi

Following the founding of the original Cincinnati Observatory in 1842, and with astronomy's subsequent spread across the nation, observatories became symbols of a city's culture, knowledge and affluence.

One of our goals has been for the Observatory to be recognized as an integral part of Cincinnati's cultural fabric.

The Observatory was recently included in the Best of Cincinnati Guide (pg 20) and is in a top spot in the Cincinnati Preservation Association's 50 for 50 celebration. Both speak to the power of place and the tremendous impact we've had on the community.

When we say “the Observatory” we don't just mean the iconic buildings and telescopes. The Observatory is you and me; our staff, volunteers and members; our donors and supporters; our inspired and awe-struck visitors young and old. That's what power of place is.

We hope you will visit Cincinnati’s observatory often in 2014!

Here are some of the recent comments posted online.
I LOVE the Observatory!
I didn't know much about the observatory until I read this young woman's caption. I couldn't help myself, so I went to one of their programs and was blown away!

Did You Know. . ..
The dark areas of the Sun are regions of low density gas that emit a stream of particles known as the Solar Wind.

Went to the observatory for the first time a couple of weeks ago, it is truly amazing and should be protected.

The marriage of science, education and history the Cincinnati Observatory provides for its citizens is a distinctive to our community and city.

Simply beautiful. You've got to visit this gorgeous campus or you haven't seen all of our city.

When the observatory started back in 1845, it opened the doors to citizen science and opportunities in education. It still upholds this message.

Thank you for helping people to learn more about Cincinnati and trying to open the eyes of the local people who don't appreciate this city. They always ask, "Why Cincinnati?" They think in modern day terms rather than going back in time when we were the 4th largest city in the country and aided the nation in several ways.

The observatory is one of the best kept secrets. Go! Take your family! Look through time. Enjoy every moment of this historic landmark.

This is one of the few entries on here that actually talk about how it defines the city and makes it special.

One day on the list and the Observatory rose from 50th to 3rd! It's a special part of Cincinnati's history.

More than a just a hidden treasure, a hidden gem.

A place that has earned our community's support.

More than an attraction or fun thing to do.

Something that visitors from out of town will make part of their Cincinnati experience.
**Welcome**
New & Renewing
Members!

Eric Dunn and Judy Allen
Robert A Allison
Fred and Judy Bay
Jeff Blazey
Andrew Boehmer
R. Terry Bolen
Elizabeth Brown
Janet Canter
Marcia Clifton
Lesta Cooper-Freytag
Eric Cronk
Fred Sanborn and Janet Dieman
Doug and Shannon Disbennett
Carl and Joanne Eastwood
Richard Eby
Terry and Kim Endres
Chuck and Dawn Fields
Paul Franz
Jacob Glazer
Robert Heslar
Jeff and Kathleen Howe
Karen Kennedy
Brian Laake
Kathleen and Matthew Lynch
Sarah Melson
Megan Miller
James Morrow
Sinan Ozyol
Frank and Nancy Palmisano
Valydon Philip Poonoosamy
Donald Seltz
Chris & Nancy Virgulak

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**International Sidewalk Astronomy Night**

*By Dean Regas*

Various sites around the region
**Saturday March 8, from 7-10pm**

"Have telescope, will travel." Motto of the Sidewalk Astronomer

The premiere sidewalk astronomer, John Dobson passed away earlier this year and to help commemorate his life people around the world will be setting up telescopes in public place. The Cincinnati Observatory is the local sponsor of the event and we’ll be setting up telescopes at Fountain Square, Newport on the Levee and Washington Park. If you would like to help at one of those locations or select your own sidewalk astronomy station please let Dean Regas know at dean@cincinnatiobservatory.org. Even if you do not have a telescope we could use extra people to work the crowds and pass out literature. It’s always a fun time surprising passers-by with a view of the Moon!

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**FOTO Board Members**

*Terms expire Oct. 2014 Except as noted*

President: Michelle Gainey
VP: Aashi Mital
Secretary: John Barnes
Treasurer: JoAnne Pedersen
FOTO Rep: Frank Huss (exp Oct 2016)

Trustees
John Blasing (exp. Oct 2015)
Aaron Eiben (exp. Oct 2015)
Al Scheide
Dave McBride

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Solar Cycle 24 has just set a record for itself. A large sunspot group has remained intact for a third passage across the solar surface facing Earth. On January 2nd Active Region 1944 rotated into view on the eastern solar limb and just south of the Sun’s equator. For 14 days it grew in size and shape and produced flares as it crossed the solar disk. The sunspot rotated out of view only to return 13 days later, again on the eastern side of the Sun and below the solar equator. AR 1944 was re-named AR 1967. For 14 days it again traversed the solar disk throwing flares into space. For the same sunspot to live for 2 passages was something out of the ordinary for this solar cycle. Many of the sunspots in the past few years have only survived for 5 to 7 days. So, AR 1967 was a record breaker for this 11 year sunspot cycle.

Then on February 25th, a new large sunspot rotated into view. It was our old friend AR 1944 renamed AR 1967, and now named AR 1990. A day later, it exploded with an X 4.9 solar flare. That flare was not aimed at the Earth so we did not see any adverse effects from it. The sunspot has become smaller now and will likely not live long enough for another passage. However, it did break the record for longest surviving sunspot of Solar Cycle 24. If you would like to see more details of this sunspot’s life, check out spaceweather.com and use the archives area of the web page to go back to January 2, 2014.
Craig B. Waff Symposium
June 27-29

By John Ventre

Dr. Craig B. Waff, historian of mathematics, astronomy, and the origins of baseball, had a massive heart attack in June 2012. While visiting California he was actively conducting historical research on Ormsby MacKnight Mitchel, the founder of the Cincinnati Observatory, when he experienced his heart attack. Craig’s memorial service was held six weeks later at the Cincinnati Observatory Center (COC), an institution dear to his heart for its important role in the history of astronomy. A national historical symposium in the memory of Craig will be conducted at the COC from Friday evening, June 27 through Sunday, June 29, 2014.

The Antique Telescope Society, in which Craig was very active, has agreed to be a lead participant. Also, members from the Euler Society (Mathematics-Astronomy-Science) the Society for American Baseball Research (SABR), and the Vintage Base Ball Association (VBBA) are expected to contribute papers at the symposium.

Moreover, two eminent historians who were both colleagues and friends of Craig—Steven J. Dick, former NASA Chief Historian, and John Thorn, Official Historian of Major League Baseball—have agreed to be keynote speakers at the dinner Saturday night, June 28. Each will reflect on the role and significance of Craig’s research in the two fields of history of astronomy and nineteenth-century origins of our national sport.

Many volunteers will be needed to support this symposium. We will need volunteers to assist with preparation, sign-in, food-service, clean up, tour guides, paper timers, car transportation from hotel to Observatory, etc. etc. Please block out Friday night June 27, daytime and nighttime on Saturday, June 28, and daytime Sunday, June 29 to volunteer with this symposium. Detailed duties for the volunteers will be posted at a later date.

Also please consider registering to attend the symposium. Registration details will be announced in the April FOTO Newsletter.

Leo Sack Update

By Craig Niemi

Leo has enrolled in grad school at University of Colorado at Colorado Springs working toward his Masters of Science degree in Space Studies and Science Teaching. He’s found an apartment in Cascade, in the foothills of Pikes Peak and reports...You should see the dark skies there! And the hiking. And the wildlife...

Did You Know. . .

The moons of Jupiter, Saturn and Neptune are at least 50% water.

Astrophotography Workshop

Thursday March 20th
7:00-9:30 pm

Interested In Learning How Astronomers Take Those Amazing Images Of The Heavens? Interested In Taking Those Pictures Yourself?

This Monthly Course Will Teach You The Tricks Of The Trade, Help You Get The Most Out Of The Equipment You Already Have, And Point You Toward The Best Upgrades. You Might Find Your Images In A Future Observatory Calendar.

Free For Cincinnati Observatory Members. Space Is Limited. If You Have Questions Or Would Like To Register, Please Call Us 513-321-5186.

Guide To The Planets For Ipad

From tiny Mercury to distant Neptune and Pluto, this interactive guide to the planets from Astronomy Now magazine takes you on a tour of our Solar System and beyond.

FOTO's March 2014 Meeting
By Dave McBride

The March meeting of the Friends of the Observatory marks a new opportunity for our organization. After more than two decades of membership meetings scheduled on the first Thursday of each month, we now move our meetings to the second Monday of each month. The general membership approved this change by majority vote at our February meeting. Please join us, then, on Monday, March 10, 2014 at 7:30pm for the inaugural meeting of our new schedule.

Several members have mentioned to me that the March meeting will be a bit confusing at first because it creates some changes to other FOTO functions such as the timing of the newsletter and the day selected for our Planning committee meetings, etc. One issue that arose right away was that the Program speaker we scheduled for March had a calendar conflict with the new meeting day. We have invited the speaker to consider another meeting date in the future.

In the meantime we have an interesting video feature to present to you at the March meeting. We always appreciate program ideas that you may have. Please share them with any of the Program committee members.

Highlights of the February FOTO Meeting
By John Barnes

On February 6, we, the Friends of the Observatory, held our first regular monthly meeting since November; December’s meeting was the Holiday Dinner and January’s meeting was cancelled due to snow.

First up, we voted to amend the by-laws. They had been written in a way that required FOTO meetings be held the first Thursday of each month. A request from Craig and Dean made sense; move the monthly meetings to another day and allow the COC to be open to the public on all Thursdays and Fridays. The amended by-laws do just that. As long as appropriate notice is given, the monthly meetings can now be held on any day we choose. Don’t worry; we don’t intend to have our meetings one day this month and another day the next, but we do want the freedom to respond to the changing needs of the COC and our membership. The net result is: FOTO monthly meetings will now be held on the second Monday of each month at 7:30 PM. Any deviation from that schedule will be communicated to the membership at least five days in advance.

Several opportunities for volunteers were announced. Please see 1) John Ventre if you would like to help with the Craig B. Waff Symposium that will be conducted at the Cincinnati Observatory from June 27 – 29, 2) Dean Regas if you would like to help with an observing session at Washington Park immediately following the presentation Dean will be giving in cooperation with the Cincinnati Opera, and 3) Dale Zoller if you want to help with the planning of ScopeOut 2014 (it will be here before you know it!).

We were fortunate to have two presentations in February:

First, Frank Huss shared with us some fascinating facts about his recent cruise in the Atlantic. Frank was aboard the four-masted clipper ship Star Flyer for 21 days at sea during which time the clouds parted just in time for Frank to witness the total solar eclipse on November 3, 2013.

Next we were treated to a presentation / demonstration, by Aaron Eiben and John Blasing, of their recently constructed cloud chamber; a remarkable device for providing a visual display of cosmic rays.

The next monthly FOTO meeting will be held at 7:30 pm on March 10, i.e., the second Monday in March! Mark your calendars!

Meet Me Outdoors

Looking for one site to find this winter’s outdoor recreation events? Visit the Meet me Outdoors website to find great things to do outdoors, including stargazing (we count indoors under the dome as being outside)

http://meetmeoutdoors.com
Asteroid Nearly Misses Earth Feb. 17th

Two million miles away, astronomers consider that a close call. Great. They say that it was the size of three football fields and traveling at about 27,000 miles per hour.

It doesn't sound like we were in TOO much danger. Even so, CBS This Morning says the asteroid was given a name: 2000 EM26. 'Hundreds of thousands of people logged onto a special website to watch it go by.' USA Today says 2000 EM26 was actually first discovered in March of 2000 and Monday evening was the first time it’s been observed since.

This asteroid-sighting comes just about a year after an asteroid blew up over Russia, leaving more than 1,500 injured.

CNN spoke with astronomer Bob Berman who said a previously undiscovered asteroid hits Earth about once a century, like it did in February 2013 in Russia. He went on to say that discovering and tracking all NEOs (near-Earth objects), as well as setting up contingency plans for deflecting them on short notice should the need arise, would be a wise use of resources.'

Be an Observatory Star With Your Kroger Rewards Card!

By Lyn Marsteller

The Cincinnati Observatory Center is now a recognized participating nonprofit organization in the Kroger Community Rewards Program. It’s a simple as 1, 2, 3, and 4!

If you have a Kroger Rewards card, simply go to krogercommunityrewards.com and sign in.

- Go to the My Account tab and enter your email address and password,
- Then select Edit Kroger Community Rewards, and most importantly,
- View organizations to select the Cincinnati Observatory Center or enter 55142,
- Confirm your selection.

If you don’t have a Kroger Rewards card yet, simply ask for one at your checkout the next time you are shopping at Kroger.

Kroger will send the Observatory a quarterly portion of the proceeds it collects from the Community Rewards program. This does not affect your Kroger Fuel Points, so go ahead, be a star!

Supernovas Slosh Before Exploding

A longstanding mystery of astronomy, how supernovas explode, might finally have been solved with the help of NASA's Nuclear Spectroscopic Telescope Array (NuSTAR). The high-energy X-ray observatory has mapped radioactive material in the supernova remnant Cassiopeia A (Cas A). The map reveals how shock waves likely rip massive dying stars apart—by sloshing.

Stars are spherical balls of gas, and so you might think that when they end their lives and explode, that explosion would look like a uniform ball expanding out with great power.


Immerse Yourself in the World of Science

"Time. It's not what you think it is."

- Brian Greene

World Science U

Brian Green’s Website is launching soon.

Education for Everyone at all levels of interest and Knowledge

http://welcome.worldscienceu.com

A2Z Astronomy Class

By Dave Bosse

Due to my recent surgery, the A2Z Astronomy class will be taking a little time off for R & R.

The regular attendees are aware of this and semi-regular or other attendees should watch this space for any upcoming A2Z activity.
Shuttle "Crew Compartment Trainer" Exhibit Opens

By Dale Zoller

During the last year of my tenure as president of FOTO, NASA was selecting the sites where the soon-to-be-retired Space Shuttles would be put on display to the public. The National Museum of the United States Air Force in Dayton, Ohio was one of the top sites on the "short list" of future homes for one of the iconic spacecraft. And for good reason - the Air Force provided many of the pilots and crew for the Shuttle, plus the Shuttle was used to deploy many classified and unclassified Air Force payloads and experiments. When the list of final destinations for the Shuttles was released, the NMUSAF was not included. Discovery went to the National Air & Space Museum's Udvar-Hazy Center near Washington, DC. Atlantis is at Cape Canaveral in Florida, and Endeavour ended up in Los Angeles, California. Enterprise - which was a prototype used for early glide tests, and was never flown to space - ended up at a museum in New York City. Three Shuttles on the east coast; one on the west coast, and nothing for middle America. I recall using my "bully pulpit" for several rants about the unfairness of the decisions.

Naturally, everyone connected with the NMUSAF was stunned at not receiving one of the Shuttles. However, it was announced that the NMUSAF would receive the "Crew Compartment Trainer 1" (CCT1) which is a mockup of the forward section of the Shuttle used for crew training simulations. Not exactly as exciting as having a "real" Shuttle, but as they say, when handed lemons, make lemonade! The museum contracted a local company to build a replica of the Shuttle cargo bay and tail section. This was then mated to the crew compartment to create a nearly complete Shuttle. Walkways for entering and exiting the display mimic the shape of the orbiter's delta wings to complete the effect. You can walk up the wing-shaped ramps and into the cargo bay where you will find a replica of a satellite that was carried to orbit by the Shuttle. At the forward section of the cargo bay you can climb a stairway and look directly into the cockpit of the orbiter (complete with a mannequin dressed in a shuttle launch/reentry suit).

Since this was used to train the shuttle crews, the layout and instrumentation is exactly like that in the actual cockpit. The exhibit designers created a large "window" in the rear bulkhead so that you can see both the flight and mid-deck levels of the crew compartment.

Having seen the Discovery at the Smithsonian this summer, I honestly think we may have got the better deal. Sure, it's a real Shuttle that actually went into space - but all you can do is walk around it (no touching!) and take pictures. The NMUSAF has created an interactive display that lets you actually see where the crew controlled and operated the spacecraft. You can even see the "space toilet" through a window that covers the escape hatch! In addition, they built a small theater next to the exhibit that is used for STEM-related educational programs.

The staff of the NMUSAF should be commended for their efforts in making a first-rate exhibit! I highly recommend making the short drive to Dayton to see the only Space Shuttle exhibit in the Midwest.

History of the Observatory

March 9th & 23rd 1-4 pm

The "New" Telescope: Only 110 Years Old

Drop in anytime between 1-4pm $5 per person suggested donation. Free for members. Group tours by appointment.
Remembering Paul Nohr
Sunday March 23rd 1-4 pm

By Craig Niemi

We hope you can join us for the 5th anniversary of the dedication of the Paul Nohr Memorial Sundial.

The Sundial has been a tremendous addition to our campus and our education programming!

Paul was a master at using a sundial to teach about our nearest star; the motion of the earth in our solar system; telling time; the reason for the seasons and more. We’re sure he would have loved to have had the Sundial as a teaching tool.

The afternoon will feature tours of the observatory Paul was so dedicated to, solar viewing and Sundial demonstrations (weather permitting) and remembrances.

Free, and there are no reservations needed. Drop in anytime between 1 and 4 pm.

A Breakthrough in Discovering Planets

NASA has just announced a breakthrough addition to the catalog of new planets. Researchers using Kepler have confirmed 715 new worlds, almost quadrupling the number of planets previously confirmed by the planet-hunting spacecraft. Some of the new worlds are similar in size to Earth and orbit in the habitable zone of their parent stars.

Video: [http://www.youtube.com/watch?v=B4hH3bxaGQ](http://www.youtube.com/watch?v=B4hH3bxaGQ)

For Sale - Giant Right-Angle Prism Binocular System

FOTO member Graham Davis has a giant 5-inch VIXEN right angle binocular system for sale. (A recent review in Astronomy magazine rated these as probably the best available today in the price range.)

It comes with a custom manufactured yoke and tripod; green laser pointer finder and three pairs of matched Televue Nagler oculars. The views are stunning, not only wide field, but planets too! All in fitted aluminum cases for storage and transportation!

New value Total $5,750.00 Asking $4,300.00!
Contact Graham Davis at Graham@Ket-Moy.com or phone 513-386-9612 or 513 787-3272.

'Blueberries' on Mars May Not Hold Ancient Secrets After All

In 2004 Martian blueberries were discovered by NASA’s rover Opportunity.

A popular theory, described in a study published in June 2012, held that the blueberries formed as a result of the flow of water through rocks on the planet -- the same way similar iron-rich spheres are formed on Earth. But researchers from the Hawaii Institute of Geophysics and Planetology now believe that the spheres formed from meteorites that broke up in the Red Planet’s atmosphere.


Did You Know…

Unlike the Earth, no other planet in our solar system has a total eclipse from any of their moons.
Kepler Finds a Very Wobbly Planet

Imagine living on a planet with seasons so erratic you would hardly know whether to wear Bermuda shorts or a heavy overcoat. That is the situation on a weird, wobbly world found by NASA's planet-hunting Kepler space telescope.

The planet, designated Kepler-413b, precesses, or wobbles, wildly on its spin axis, much like a child's top. The tilt of the planet's spin axis can vary by as much as 30 degrees over 11 years, leading to rapid and erratic changes in seasons. In contrast, Earth's rotational precession is a relatively tame 23.5 degrees over 26,000 years.

Kepler 413-b is located 2,300 light-years away in the constellation Cygnus. It circles a close pair of orange and red dwarf stars every 66 days. The planet's orbit around the binary stars appears to wobble, too, because the plane of its orbit is tilted 2.5 degrees with respect to the plane of the star pair's orbit. As seen from Earth, the wobbling orbit moves up and down continuously.

Astronomers are still trying to explain why this planet is out of alignment with its stars. There could be other planetary bodies in the system that tilted the orbit. Or, it could be that a third star nearby that is a visual companion may actually be gravitationally bound to the system and exerting an influence.


Stargazing at Stonelick State Park

By Craig Niemi

Saturdays – March 1st & 29th

After a long, snowy, cloudy winter we’re all looking forward to clear spring skies. Need help with your telescope? Bring it for expert tips setting it up and exploring the night sky.

Stargazing begins at dusk. Open to all ages. Stargazes are weather permitting. “Friend” the Stonelick Lake Stargazers Facebook page for weather and schedule updates.

Water Detected on Dwarf Planet Ceres

Scientists using the Herschel space observatory have made the first definitive detection of water vapor on the largest and roundest object in the asteroid belt, dwarf planet Ceres.

Data suggests that plumes of water vapor shoot up when portions of its icy surface warm slightly. The results come at the right time for NASA's Dawn mission, which is on its way to Ceres now after spending more than a year orbiting the large asteroid Vesta. Dawn is scheduled to arrive at Ceres in the spring of 2015, where it will take the closest look ever at its surface.


New Star Gazers Report

Dean Regas guest hosting “Star Gazer.”

Star Gazers airs locally on channels 14 and 48 and you can watch each month’s episodes on our website:
http://www.cincinnatiosservatory.org/stargazer.html

715 New Planets Found by Kepler

A statistical analysis of data collected by NASA's Kepler space telescope has confirmed the discovery of 715 newly-found planets orbiting 305 stars, pushing to total number of known planets beyond Earth's solar system to nearly 1,700.