

Observatory News

February 2008
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February Events At the Observatory

Feb. 1st – FOTOkids meeting, 7 pm. Note this meeting is NOT at the Observatory, but at the Wolff Planetarium. Page 2

Feb. 2nd - Stonelick Lake Star Party starts as dusk. Page 3

Feb. 7th – FOTO meeting, 7:30 pm. Page 2

Feb. 10th – Lunar Eclipse Photography class. 6:30 pm, Page 2

Feb. 11th - Communiversity Class at the Observatory: "Behind the Scenes at the Observatory", 7-9 pm. Page 3

Feb. 18th – African Skies program, 7-8 pm at the Observatory. Page 2

Feb 20th - Lunar Eclipse Open House, 8:30 to 11 pm at the Observatory. Page 3

Feb. 21st - Planning meeting 6:00 pm at the Hyde Park Tavern. Page 2

The Word from FOTO's President Bosse

It seems like it has been just a few months, but it has been almost an entire year since the Total Lunar Eclipse last March. That night was most memorable, not for the lunar spectacle in the sky, but for the thick clouds and the penetrating cold. We are again "blessed" this winter with another Lunar Eclipse syzygy, not quite one year later. Another opportunity for the Cincinnati weather to perhaps punish us astronomers.

It is that "not quite one year" period that gives us a tangible demonstration of the workings of orbital mechanics. The nodes of the moon's orbit shift to the west in an eighteen-year cycle that brings each eclipse season to us about nine days short of every six months. The eclipse season is a 37-day period when the Sun is close enough to one of the moon's nodes that eclipses can occur. This is the second eclipse season since last March's Eclipse, so the Sun will arrive at the moon's node about

eighteen days earlier in the winter of '08. The timing of the full phase of the moon is what determines the exact time of the eclipse (a full moon is required, after all), so this eclipse actually occurs about twelve days earlier than last winter's.

I know this two-week shift in the time of the eclipse is a little esoteric, but it does show the effect of some aspect of Astronomy surfacing in our (almost) everyday lives. Tides, for sure; to a certain degree, the weather (seasons); Sun blindness during rush hour; agricultural activity linkages with lunar phases; rainbows; the nautical mile; the date of Easter; and even my wedding anniversary all have an Astronomical root (Peggy and I got married within a few minutes of the Vernal Equinox). Calendars and Clocks: this is the most basic stuff of Astronomy.

If I might be permitted to paraphrase John Cage: "Astronomy is all around us, if only we had the eyes to see." He was actually talking about music, ears and hearing, but the meat of the statement is the same and the conclusions are just as obvious. Learning a little more about Astronomy can't help but make us more efficient, better persons and good stewards of the planet! Wow!

So, the eclipse season returns and gives us another opportunity to open the doors of the Observatory and open the minds of our visitors to the Astronomy that is all around us. To give them the eyes to see, perhaps to see an Eclipse.

Don't forget to dress warm. Clear Skies! (on the 20th, yes, yes, yes)

The February FOTO Meeting

Thursday, February 7th
7:30 PM

By Dave Bosse

Well, we really didn't settle the issue of Intelligent Life elsewhere in the Galaxy last month, but we certainly had a rousing time discussing the parameters of the Drake Equation. Objects were not thrown and discussions were civil amidst widely varying opinions. We chose to take liberal values as well as conservative values and came up with the definitive result that the number of Intelligent Civilizations elsewhere in the Galaxy is positively somewhere between one/millionth and a million. I'm not sure what qualifies as a millionth of an Intelligent Communicative Civilization. Is that like living in... (I should be quiet.)

At the February meeting we are going to continue in our series of group activity programs and play a version of "Name that Tune," except instead of music we'll be using astronomical images. I call it "What's that?"

If you are not all that familiar with the astronomical images that permeate the web, this month's program should be a very pleasant stroll through lots of pretty and interesting pictures. If you are familiar with and recognize, say, the puffy lobes of NGC4296, or the wrinkled surface of Enceladus, well... share your wealth of knowledge with us. There are still bound to be plenty of "What's that?" images stumping everyone.

The February general FOTO meeting will be held at the Observatory at 7:30 P.M. on the evening of February 7th. Come on out to the world's hippest Astronomical gathering in town.

For Sale

1965, 8" Cave f/7 reflector. Mirror needs aluminizing and mount needs cleaning and painting. \$400.

Milton Odell, Maineville, 513-683-7955, MOdell2147@aol.com.

FOTO Planning Meeting

By Dave Bosse

The next FOTO planning meeting will be on the 21st of February, 6:00 P.M. at The Hyde Park Tavern (Otherwise known as the HPT, or previously known as *The Hyde Park Tavern and Grille*). All members of FOTO are invited to attend any and all of these spirited gatherings. Your input is welcome and appreciated.

The newly re-invented *Hyde Park Tavern* has passed its first evaluation with fairly good reviews. That is to say the food was good and they didn't throw us out. We're going to give them a second go in February, so come on out and join in on the governance of FOTO. *The Hyde Park Tavern* is located at 3384 Erie Avenue just over the hill from the Observatory.

FOTOKids February Meeting

By Dean Regas

FOTO Kids is going on a field trip for its February meeting. Instead of coming to the Observatory, we will be meeting at the Trailside Nature Center, home of the Wolff Planetarium, on Friday, February 1st at 7 PM. The Cincinnati Parks welcome us to visit their tiny planetarium and experience a live show about the winter sky. You'll get to make some constellation crafts and see where Dean Regas began his career in astronomy. Join us for a night under the stars - and for once we won't have to worry about clouds. For directions to the planetarium visit: <http://www.cincinnati-oh.gov/cityparks/pages/-3444/>

If you have any questions, please call Dean at 513-321-5186 or if you have trouble finding us that night, call the planetarium at 513-751-3679.

Did You Know....

Fortunately for all of mankind, had there been exactly equal amounts of matter and anti-matter at the time of the Big Bang, the universe today would consist of nothing but radiation.

Lunar Eclipse Photography Made Easy(er?)

By Scott Gainey

A group of experienced astrophotographers from FOTO will be holding a training class for persons interested in photographing the total lunar eclipse on February 20th, and/or those who have a general interest in astrophotography. This class will provide information for beginner to advanced levels. Subjects to be covered include cameras, mounts, telescopes, useful accessories and software. The class will take place rain or (Moon) shine. Weather permitting, we plan to demonstrate some of the imaging methods on the first quarter moon.



This training will be held Sunday, February 10th at 6:30 pm at the Observatory. Cost is \$5.00 for nonmembers and free to COC/FOTO members. Call the Observatory at 513-321-5186 to reserve a seat as we are limited to 50 people in this class.

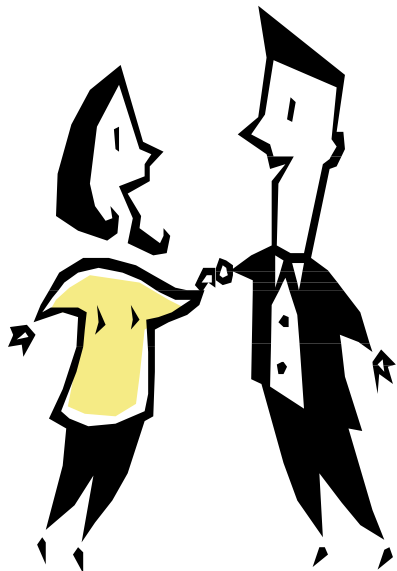
African Skies

Monday, February 18, 7-8 pm

By Dean Regas

Celebrate Black History Month by learning about the star myths and legends originating from all over Africa. We will make three stops and visit the skies as seen in Cairo, Egypt, central Africa, and the Cape of Good Hope and learn what different cultures saw in the stars above. Viewing of the Moon and Orion will follow (weather permitting). Reservations required. The cost is just \$5 per person.

Welcome Renewing & New FOTO and COC Members!



Donna & Bill Anderson
Malcolm Bernstein
John & Tricia Bevan
Roger Burgess
Thomas Busemeyer
Linda & George Callard
Donald Campbell
Michael & Minnie Clements
Jean Davison
Charles & Linda Dehner
Robert Ehram
Bob & Mary Fitzpatrick
James Garvey
Kendall Harden
Linda Homer
Joan Howison
Barbara Lancor
Eric & Diane Luczak
Joan Luppino
Rob & Katie Magenheimer
Rodney & Susan Moeller
Craig & Valerie Niemi
Thomas Ottenjohn
James & Bette Ramsey
Joel & Lisa Rosenthal
Sharon Stern
Laura Strubbe
Rita Voltmer
Dwight Werren

Behind the Scenes at the Cincinnati Observatory February 11th

UC Communiiversity Classes! Your Path to Lifelong Learning

Coming up February 11th: *Behind the Scenes at the Cincinnati Observatory*
Join people with similar interests as you broaden your horizons, develop a new talent or interest, or acquire skills designed to help you succeed. Classes are noncredit, short term, affordable, informal, and pressure-free (no exams or homework). Hundreds of classes are offered year-round.

The Observatory's classes are taught by the COC staff and held at the Observatory. For course information on all course offerings and to register, please call UC Communiiversity (513) 556-6932 or visit the Communiiversity website (www.uc.edu/ace/commu).

Did You Know....

Light will travel slightly slower in air than through space, and some wild experiments have actually slowed light to a crawl and seemingly made it go backward

Mystery Of Jupiter's Jets Uncovered



The very bright storms are formed amongst the deepest clouds of water on the planet, rising vigorously and injecting a mixture of ice ammonia and water up to 30 km above the visible clouds. The storms move with the maximum velocity of the jet, - more than 600 kilometers per hour, creating disturbances and generating a stede of turbulence of reddish clouds that circle the whole planet.

<http://www.sciencedaily.com/releases/2008/01/080124114410.htm>

Lunar Eclipse Open House February 20th

8:30 to 11 pm at the Observatory

The Cincinnati Observatory invites you to see a rare and beautiful event in a unique and historic location.

Total Lunar Eclipse

We will also look at the **Orion Nebula** and the breathtaking ringed planet, **Saturn** through our historic 1843 and 1904 telescopes (weather permitting). A perfect night for adventure and romance.

Cost: \$4 per person. No reservations required.

For more information please call **Dean Regas at 513-321-5186.**

or visit: www.cincinnatiobservatory.org

Stonelick Lake Star Parties

By Scott Naylor

Our next Star Party will start at dusk on **Saturday, February 2nd**, with a rain or snow date the next Saturday, February 9th.

March's meeting will be March 1st with back-up of March 8th.

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

February's Trivia Question

By Greg Huber

Name the first child whose parents had both flown in space. Hint: The mother should be easy to guess.

January's Trivia Question

In bytes, how much data does the Hubble Telescope generate per day?

The Answer

The Hubble Space Telescope downloads over 500 gigs to Earth each day. That's about 106 DVD's worth!

Humanities @ the Observatory

The 2008 Series

The Cincinnati Observatory Center complements its astronomy programs with an annual lecture series: "Humanities @ The Observatory." The lectures are a natural extension of the Observatory's efforts to highlight its historic setting and broaden its audience. The lectures will focus on subjects that may be historic or philosophic in nature, but are somehow linked to the history of Cincinnati and/or science.

Xavier University: History, Mission and Community Since 1831



Fr. Michael Graham, President of Xavier University
March 25th, 7:30 pm at the Observatory. Cost is \$10, \$5 for students and Observatory members.

Xavier is an educational community dedicated to the pursuit of knowledge, to the orderly discussion of issues confronting society; and, as would befit

an American institution grounded in the humanities and sciences, Xavier is committed unreservedly to open and free inquiry. Xavier's 34th president is Michael J. Graham, S.J., who was inaugurated in fall 2001. Graham has been with Xavier for nearly 20 years, beginning his work here as an adjunct professor of history. He entered the Society of Jesus in 1978 and was ordained as a priest in 1988.

Using the Best of the Past to Build a Future



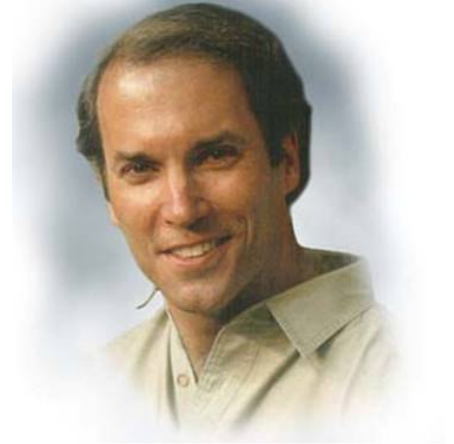
*Roxanne Qualls, Cincinnati
Council Member
April 22, 2008 7:30 pm.*

Ms. Qualls previously served three terms as Mayor of the City of Cincinnati from 1993-1999. After leaving office due to term limits, Roxanne went to Harvard University where she served as a fellow in the Institute of Politics, a Loeb Fellow in the Graduate School of Design, a Malcolm Weiner Fellow in Social Policy at the Kennedy School of Government, and in 2002 earned a Masters degree in Public Administration. She returned to Cincinnati in 2004 and taught in the Masters of Public Administration program at NKU and served as Director of Public Leadership Initiatives. Prior to serving in elected office, Ms. Qualls served as director of the Cincinnati

office of Ohio Citizen Action, Director of Women Helping Women, and Director of the Northern Kentucky Rape Crisis Center.

Thane Maynard, Director Cincinnati Zoo & Botanical Gardens

September 23, 2008 7:30 pm



Thane Maynard is Executive Director of the Cincinnati Zoo & Botanical Garden. The mission of his work teaching and writing is to tell the story of biological diversity, natural history, and wildlife conservation to the general public. Thane is best known as a writer and host of numerous wildlife programs, including the daily National Public Radio series The 90-Second Naturalist, which airs on stations across North America. He has been featured on "Good Morning America", the "Today" show, and "CBS This Morning", and has been a regular wildlife expert on "Late Night With Conan O'Brian".

Asteroid Just Missed Mars

The asteroid, known as 2007 WD5, was discovered in late November and is similar in size to an object that hit remote central Siberia in 1908, unleashing energy equivalent to a 15-megaton nuclear bomb and wiping out 60 million trees.

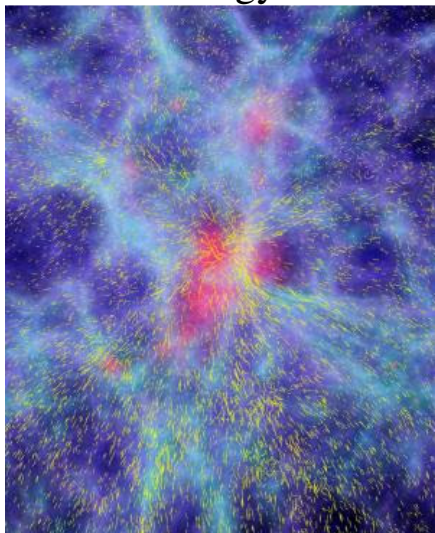
Hyperfast Star Proven To Be Alien



Artist's view of star ejected from the Large Magellanic Cloud.

The team confirmed results of the previous study concerning the mass, age, and speed of the star. It is about nine times the mass of our Sun, about 35 million years old, and it is zooming away from the Milky Way and Large Magellanic Cloud into intergalactic space at 1.6 million miles per hour (2.6 million km/hour). "This is the first observational clue that a massive black hole exists somewhere in the LMC. <http://www.sciencedaily.com/releases/2008/01/080128113256.htm>

New Light On Dark Energy



Astronomers have used ESO's Very Large Telescope to measure the distribution and motions of thousands of galaxies in the distant Universe. This opens fascinating perspectives to better understand what drives the acceleration

of the cosmic expansion and sheds new light on the mysterious dark energy that is thought to permeate the Universe. Ten years ago, astronomers made the stunning discovery that the Universe is expanding at a faster pace today than it did in the past.

"Explaining why the expansion of the Universe is currently accelerating is certainly the most fascinating question in modern cosmology.

<http://www.sciencedaily.com/releases/2008/01/080130130650.htm>

Dramatic Wind Action Detailed On Mars



Mars has an ethereal, tenuous atmosphere with less than one-percent the surface pressure of Earth, which challenges scientists to explain complex, wind-sculpted landforms seen with unprecedented detail in images from NASA's Mars Reconnaissance Orbiter.

<http://www.sciencedaily.com/releases/2008/01/080124191716.htm>

Did You Know....

The Mar's orbiter carrying the new High Resolution Imaging Science Experiment camera flies at about 7,500 mph between 155 to 196 miles above the Martian surface. This camera can see features as small as half a meter (20 inches).

The Word of the Month

By Greg Huber

"Hard X-Rays"

January's Word was "Lunambulism". Lunambulism is a type of sleepwalking supposed to be due to the Moon's influence.

Thanks to the Volunteers

John Ventre

Many thanks to the following volunteers who prepared the Observatory for the Floor Refinishing Project. Thanks to the approximately 20,000 visitors a year to the Observatory our original virgin pine floors could not take the abuse of the 40,000 feet and the floors had to be sanded down to original wood and then coated with three coats of protective polyurathane. The volunteers had to pack up all of the material inside the Herget building, including furniture, books, and historical displays.

Thanks to: **Bill Bachelder, Diana Batsch, Janet Canter, Matt Faller, Lou Freese, Mike and AJ Helfen, Denise Mustain & her cousin, Valerie Niemi, JoAnne & Poul Pedersen, Terry Powell, Kirk Schrotel, Rebecca Shundich, Gary Wilkins, and Dale Zoller and his son.**

The office staff arranged to set up a temporary office for several weeks in the Mitchel building during the refinishing project. Thanks to **Craig Niemi, Dean Regas, Roger Burgess and Lola Gabel.**

Mercury Flyby

January's historic flyby of Mercury by NASA's MESSENGER spacecraft gathered 500 megabytes of data and more than a thousand high-resolution photos covering nearly six million square miles of previously unseen terrain. Discoveries are at hand.

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

The Observatory Seeks Your Financial Help

By Craig Niemi

Thank you for all your generous contributions, donations and the many volunteer hours you gave to the Observatory in 2007. The Observatory could not offer the community all its great programs without your support.

We hope you will consider the Observatory as one of your favorite charitable organizations.

Craig's Corner

By Craig Niemi,
COC Executive Director

Work is underway in the 1873 Herget building. The old pine floors on the main level have been sanded, stained and sealed with multiple coats of polyurethane. They had taken quite the beating with 20,000 visitors a year coming through. Construction of the new bookcases is underway and they'll be installed once the plaster restoration is complete this April. But it won't take that long to get back in the building. The floors should be cured well enough in just another week or so to reopen for business.

We'll be relieved when we can return everything from storage and bring life back into that grand building. It was a little distressing to see the building completely emptied of furniture, displays and the artifacts from our long history. It was even more disturbing not to have the classroom and telescope dome room full of visitors and students. A reminder of what could happen if support for this "Birthplace of American Astronomy" should dwindle. But enough of that kind of talk. Interest in, and support for, the observatory continues to grow and if we stay true to our mission our future is secure.

A fabulous line up of speakers has been booked for the 2008-09 "Humanities @ the Observatory" lecture series.

We hope you'll join us on March 25th for Fr. Michael Graham, President of Xavier University, Cincinnati council member Roxanne Qualls lecture on April 22nd. The series continues in the fall with Thane Maynard of the Cincinnati Zoo and the Art Museum's Aaron Betsky.

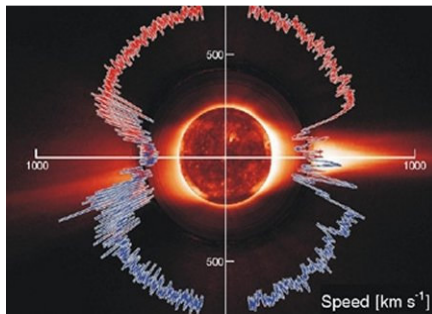
See you at the Observatory on February 20th for the lunar eclipse.

Craig

Did You Know....

Special relativity predicts that while a clock on Earth would advance 30 minutes, a clock on a spacecraft traveling at 90% of the speed of light will advance just 15 minutes.

Ulysses Flyby of the Sun's North Pole



Many scientists believe the sun's poles are central to the ebb and flow of the solar cycle. Consider the following: When sunspots break up, their decaying magnetic fields are carried toward the poles by vast currents of plasma. This makes the poles a "graveyard for sunspots."

One big puzzle revealed by previous flybys is the temperature of the sun's poles. In the previous solar cycle, the magnetic north pole was about 80,000 degrees or 8% cooler than the south. Why should there be a difference?.

http://science.nasa.gov/headlines/y2008/14jan_northpole.htm?list739819

Asteroid Nears Earth

Asteroid 2007 TU24 will be flying past Earth at a distance of only 334,000 miles (1.4 lunar distances), on January 29, and it also will be visible into early February. NASA confirms that there is no danger of a collision, but it will be close enough to photograph.

Visit <http://spaceweather.com> for celestial coordinates and a low-resolution radar image of the approaching rock.

Getting Adjusted

By John Coff (aka JC)

Tired of the cold weather? I certainly am. Skies have been uncooperative for awhile now, and something must be done about it. My friend **Graham Davis** and I are heading to Florida for the 24th annual Winter Star Party held in the Keys from February 4-9. During our trip we plan on visiting the Kennedy Space Complex, as well as some other places of interest. Weather forecasts are

favorable for some terrific viewing of the southern sky.

More to come as this adventure continues.

"Is Time Travel Possible?"

Every science fiction fan has pondered the weird implications of time travel. Can you travel into the future and find out the winning Super Lotto number--then come back and buy a ticket? Would doing so be cheating the laws of physics (to say nothing of ethics)? Astrophysicist Marc Rayman toys with such ideas in this Space Place Musings Podcast. Go to <http://spaceplace.jpl.nasa.gov/en/educators/podcast/> to subscribe to these Podcasts. Or listen now to this and the previous Podcasts on your computer or read the transcripts.

Mars Ice is Mostly Water: Good for Biologists, Bad for Terraformers



The uncovering of an apparent error in atmospheric models of Mars dating back more than three decades suggests that both of the permanently frozen polar caps are made mostly of water ice and contain very little frozen carbon dioxide.

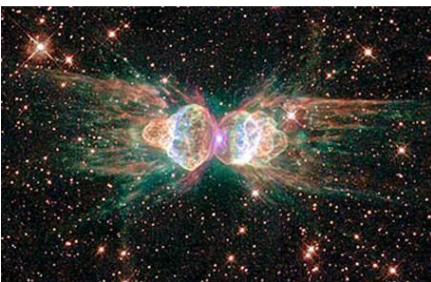
The news is good, in a lukewarm sense, for biologists, who figure water is the key ingredient for any possible life on Mars. It falls short, however, of revealing actual liquid water, which is what even the hardiest known critters need to survive.

http://www.space.com/scienceastronomy/mars_ice_030213.html

Astronomers Select Top 10 Most Amazing Pictures Taken by Hubble Space Telescope



The Sombrero Galaxy - 28 million light years from Earth - was voted best picture taken by the Hubble telescope. The dimensions of the galaxy, officially called M104, are as spectacular as its appearance. It has 800 billion suns and is 50,000 light years across.



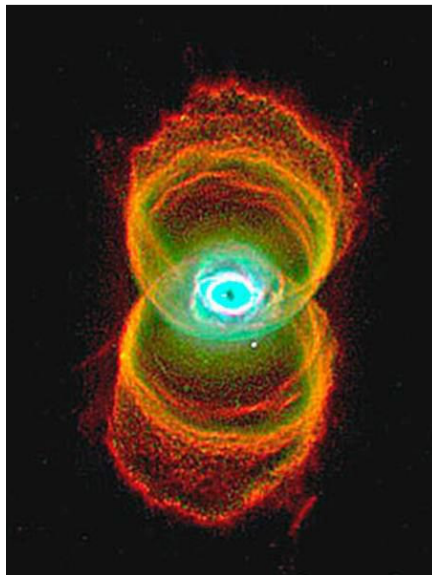
The Ant Nebula, a cloud of dust and gas whose technical name is Mz3, resembles an ant when observed using ground-based telescopes. The nebula lies within our galaxy between 3,000 and 6,000 light years from Earth.



In third place is Nebula NGC 2392, called Eskimo because it looks like a face surrounded by a furry hood. The hood is, in fact, a ring of comet shaped objects flying away from a dying star. Eskimo is 5,000 light years from Earth.



At four is the Cat's Eye Nebula.



The Hourglass Nebula, 8,000 light years away, has a pinched-in-the-middle look because the winds that shape it are weaker at the center.



In sixth place is the Cone Nebula. The part pictured here is 2.5 light years in length (the equivalent of 23 million return trips to the Moon).



The Perfect Storm, a small region in the Swan Nebula, 5,500 light years away, described as 'a bubbly ocean of hydrogen and small amounts of oxygen, sulphur and other elements'.



Starry Night, so named because it reminded astronomers of the Van Gogh painting. It is a halo of light around a star in the Milky Way.



The glowering eyes from 114 million light years away are the swirling cores of two merging galaxies called NGC 2207 and IC 2163 in the distant Canis Major constellation.