

Society News

Is Thursday the best for members?

There was some discussion at the last Committee meeting as to whether Thursday is still the best evening for Member's night at the observatory.

As part of our charitable status, we are obliged (and happy) to provide public outreach. This, historically, has been at least partially met by opening the observatory to all-comers on a Thursday evening. This usually works quite well but occasionally members are outnumbered by visitors and this can cause problems.

The Committee would like to collect member's feelings about this and possibly change "Member's Night" to another day - possibly just during the summer months which is when we get most visitors. *Please get in touch and let us know how you feel.*

Photographic Equipment is Ordered

After a fair bit of discussion and advice, VAS have placed an order with Astrograph for the following equipment:

1. APM 107/700 with 3" Focuser
2. APM M63 Reducer
3. APM 60mm Guide Scope and finder bracket
4. 26mm Reticule Eyepiece
5. Canon and Nikon T2 Mounts
6. Skywatcher HEQ5 Pro
7. Assorted Adapters

The equipment should be with us in the a week or so and, following a period of familiarization and training, we will be in a position to offer excellent astro-photography facilities both at the observatory and at outreach events. This is a substantial investment for VAS and hopefully opens a whole new area of astronomy for members.

Many thanks must go to Simon Plumley for his work establishing the best equipment within our budget and also to the Newchurch Parish Sports and Community Association for their generous help with this purchase.

Progress will be reported here, but of course you are welcome to join/help in this project at the observatory.

Brian Curd.

VAS Website: wightastronomy.org

Submissions or letters to New Zenith are always welcome and should be sent to:

The Editor New Zenith

35 Forest Road

Winford

Sandown PO36 0JY

Tel: **01983 864303** or email: editor@wightastronomy.org

Material for the next issue by the 6th of the month please.

VAS Registered Office

35 Forest Road, Winford, Isle of Wight, PO36 0JY

The Vectis Astronomical Society and the Editor of the New Zenith accept no responsibility for advice, information or opinion expressed by contributors.

Registered Charity No 1046091

Observatory Diary

| | |
|-----------------------|--|
| Monday, 19.30hrs | Members Only by arrangement Telescope and night sky training. Contact Barry Bates 01983 872979 |
| Thursday, 19.30hrs | Members and Public. Informal meeting and observing |

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2015

| Date | Subject | Speaker |
|--------|---|----------------------|
| 24 Apr | Our Dynamic Sun | Helen Mason |
| 22 May | Are We Alone? | Stephen Tonkin |
| 26 Jun | TBA | Haley Gomez |
| 24 Jul | Light - Astronomical Applications of Spectroscopy | James Fradgley |
| 28 Aug | Astro Photography and AGM | Simon Plumley |
| 25 Sep | Photographing the Aurora | Elizabeth Cunningham |
| 23 Oct | EUCLID and the Expanding Universe | Tom Kitching |
| 27 Nov | TBA | James Fradgley |

Please check wightastronomy.org/meetings/ for the latest information

Telescope Training

Any member who would like training on the observatory Meade LX200 should contact **Barry Bates on 872979**

Observatory Visits Booked

None

It would be appreciated if members could avoid using the observatory at these times.

Astronomers aren't anti-light

We just want:

***The right light
In the right place
At the right time***

**VAS Contacts
2014/15**

| | |
|-----------------------------|--|
| President | Barry Bates president@wightastronomy.org |
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| NZ Distribution | Brian Bond distribution@wightastronomy.org |
| Others | Mark Williams & Nigel Lee |

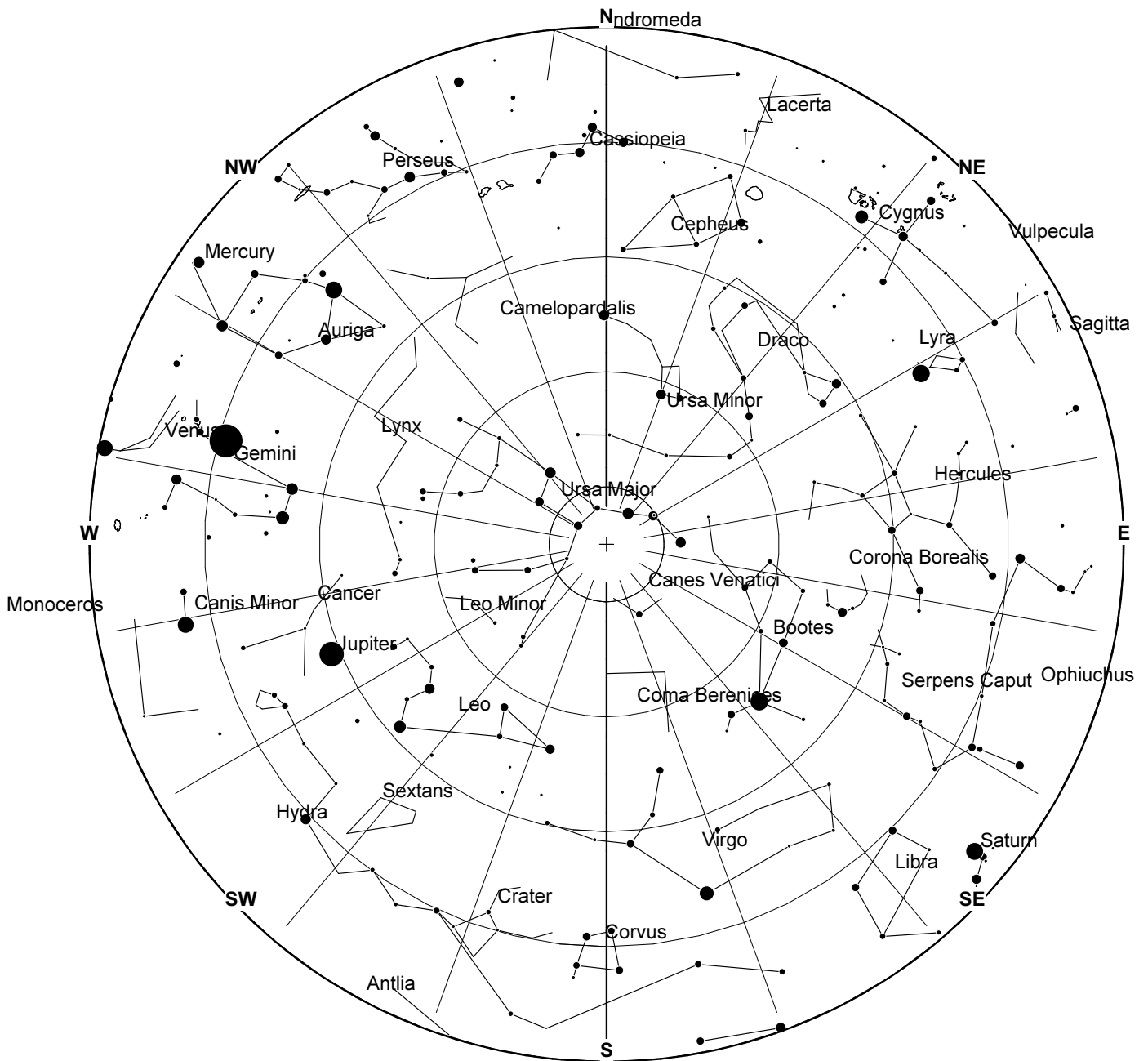
Important

Members using the observatory outside normal Thursday meetings **MUST** enter a line or two in the Observatory Log Book.

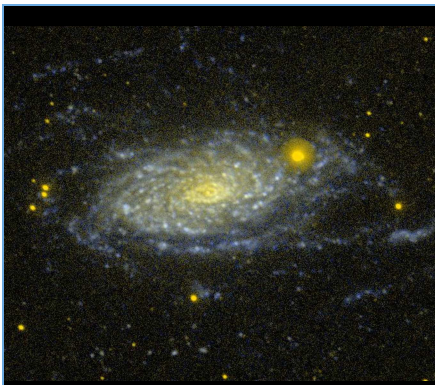
On several recent occasions, lights, heaters and the Meade LX200 have been left on!

When you leave the observatory please ensure it is secure and all lights, heaters and telescopes are **TURNT OFF.**

May 2015 Sky Map



View from Newchurch Isle of Wight UK - 2200hrs - 15 May 2015







Messier 63 (also known as M63, NGC 5055, or the Sunflower Galaxy) is a spiral galaxy in the constellation Canes Venatici consisting of a central disc surrounded by many short spiral arm segments. M63 is part of the M51 Group, a group of galaxies that also includes M51 (the 'Whirlpool Galaxy').

M63 was discovered by Pierre Méchain on June 14, 1779. The galaxy was then listed by Charles Messier as object 63 in the Messier Catalogue. In the mid-19th century, Lord Rosse identified spiral structures within the galaxy, making this one of the first galaxies in which such structure was identified. In 1971, a supernova with a magnitude of 11.8 appeared in one of the arms of M63.

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May 2015 Night Sky

Moon Phases

| New | First Qtr | Full | Last Qtr |
|---|---|---|---|
|  |  |  |  |
| May 18th | May 25th | May 4th | May 11th |

Planets

Mercury

The apparition that started in April continues into May. Mercury becomes more difficult to see as the month progresses; it is overtaking us and presents an ever thinning crescent as seen through a telescope. It ends the month in conjunction between us and the Sun.

| April | Az | Alt | | May | Az | Alt |
|---|-------|------|--|------|-------|------|
| 24th | 288 | 10.5 | | 2nd | 286.5 | 16.5 |
| 26th | 287.5 | 12.5 | | 4th | 286.5 | 17 |
| 28th | 287 | 14 | | 6th | 286.5 | 17.5 |
| 30th | 287 | 15.5 | | 8th | 286.5 | 18 |
| | | | | 10th | 287 | 18 |
| | | | | 12th | 287 | 17.5 |
| Azimuth & Altitude of Mercury at 20:30 | | | | | | |

Venus

As soon as the sky begins to darken Venus stands out as a brilliant evening star in the western sky. It is so bright that it can be followed until it is quite close to the horizon when it takes on a distinctly reddish hue. The telescopic view is of a gibbous disk heading toward quarter disk at the end of the month, steadily increasing in size as it gets closer to the Earth.

Mars

Mars is in conjunction on the other side of the Sun from the Earth and can not be seen, it will appear again in the morning sky in the autumn.

Jupiter

After sunset Jupiter can be seen half way to the zenith in the southern western sky and is visible for the rest of the evening. If it has been a warm day then the increased atmospheric turbulence will make observation more difficult as the planet slips towards the horizon.

Saturn

Saturn can be seen low in the south in the early hours of the morning. It is about the same brightness as the red giant star Antares, and can be found above and to its right.

Uranus & Neptune

Both the outer planets are too close to Sun to be visible from our latitude until later in the year.

Deep Sky



M53 Globular Cluster
RA 13h 13m Dec 18° 7'
mag 8.5

Lying some 60,000 light years away very few stars can be resolved in this cluster without the use of a large telescope. Through smaller instruments and binoculars it looks like a tailless comet.



M3 Globular Cluster
RA 13h 42m Dec 28° 22'
mag 7

Messier's first original discovery, this is a showpiece globular cluster with stars extending across an area greater than that of the full Moon. M3 contains more variable stars than any other globular.



M63 Sunflower Galaxy
RA 13h 16m Dec 41° 58'
mag 8.5

This is a barred spiral galaxy 37 million light years away. It was originally discovered by Pierre Mechain, a friend of Charles Messier and who went on to discover over 25 more objects that were subsequently added to Messier's catalogue. Through a small telescope it is visible as an elongated smudge, but with larger apertures and a dark sky some hint of detail in the spiral arms may be seen.

Peter Burgess

The Robert Hooke Society
Freshwater, Isle of Wight

Dr Allan Chapman

*from the Faculty of Modern History, Oxford,
 will give a talk to celebrate the
 350th anniversary of the
 publication of Robert Hooke's*

'Micrographia'

Thursday 30th April 2015

*7:00pm for 7:30pm start
 The Memorial Hall, Freshwater*

*This is an open meeting
 non-members are welcome:*

*Donation of £3 is requested to defray the
 costs of speaker's expenses and venue hire*

Advertising in NZ

If you would like to advertise in New Zenith, you can have a space like this for £50 per year

Only four slots are available

Artwork can be created or you can supply it.

Don't forget that member's who take the electronic version see a full colour version

Contact the Editor for information

Details on the Front Page

The August AGM

Please consider joining the VAS Committee

We need your support and help to take our Society into the next year and beyond!

An effective and involved Committee is essential

If you can spare some time to help we'd love to hear from you

Details of what's involved will be in the next few editions of NZ but, if you can't wait, just contact any current Committee Member



**Island Planetarium
 @Fort Victoria**

The Island's Telescope Professionals

Serious Stuff

TAL 200mm Newtonian Reflector OTA
 180mm Maksutov Cassegrain OTA
 EQ 5 mount and drives

Various Used ETX 's

Also starter scopes and accessories

Discounts and deals for VAS members

Call Paul England – VAS Member
 on 761555 - leave a message if I am not there
 Or - enquiry@islandastronomy.co.uk

Bright future for 'dark sky' sites as astrotourism grows in appeal

Kielder Observatory in Northumberland is top destination for the rising numbers of 'darkness seekers' who love astronomy



Stargazers gathered in Northumberland National Park, the only place in England granted Dark Sky Park status

They are the darkness seekers – and they are growing in number.

On Black Fell, looking down on Northumberland's beautiful Kielder Water reservoir, a group of people wait in a car park next to a strange wooden building with a minimalist design beamed down from the future.

This is Kielder Observatory, the centre of Britain's nascent astrotourism industry. And those waiting outside last Thursday evening were the lucky ones. Many more had applied for a night of stargazing at the observatory, but numbers are strictly limited.

Inside, next to a woodburner and under dimmed lights, the observatory's founder and lead astronomer, Gary Fildes, a former bricklayer with Tarzan hair, delivers a pep talk to his colleagues and volunteers.

The team discusses the prospect of seeing the northern lights, but Fildes is doubtful. Instead they decide to train their powerful telescopes on Jupiter and Venus and later to pick out stars such as Capella and Betelgeuse. An additional attraction is the appearance of the International Space Station.

"Remember," Fildes tells his team, "it's about interaction, it's about entertainment, it's about inspiring people."

He puts on some music. Pink Floyd, the Jam, the Pogues. "By 9.30 the sky is going to be sexy," Fildes says. "It's going to be epic."

Fildes, 49, is at the forefront of the UK's burgeoning astrotourism industry. The pivotal moment for Northumberland came in 2013 when the entire national park housing Hadrian's Wall, along with Kielder Water and Forest Park, some 1,500 sq km, was awarded Dark Sky Park status, the only one in England. Dark Sky Parks are rare. The 2013 Star Count revealed that only 5% of the UK population can see more than 31 stars on a good night.

The Tucson, Arizona-based International Dark Skies Association (IDA) confers the status only on places that take major steps to avoid light pollution. Recipients must also prove their night skies are sufficiently dark. In Northumberland Dark Sky Park, as the area was rebadged, it is so dark that Venus casts a shadow on the Earth.

Duncan Wise, visitor development officer for the Northumberland National Park Authority, helped to spearhead the campaign for dark-sky status after the Council for the Protection of Rural England found it was one of Britain's most tranquil places.

"We tend to look at landscape as everything up to the horizon," Wise said. "But what about what's above it?" Wise and others spent years drawing up their submission to the IDA, collecting reams of light readings and stitching together an alliance of local councils, parks' bodies and community groups to produce an exterior lighting master plan that influences the construction of new developments in the area.

Their efforts have been vindicated. Many of the 1.5 million who visit Northumberland each year are now aware of its Dark Sky status. "We get a lot of people coming here to see the sky now," says the man at the car-hire firm in Newcastle. "They come in autumn and winter when it's darkest. Good for the B&Bs as they get business all year round now."

Local hoteliers now issue guests with night-vision torches and put out deckchairs at night. Those who have acquired some knowledge of astronomy can receive a badge confirming that their hotels are "Dark Sky Friendly".

Wise acknowledges that Northumberland needs to do more to capitalise on its scarce resource and believes the region needs a couple more observatories to ensure that visitors will see what they came for. A £14m national landscape discovery centre, which he describes as the north's answer to the Eden Project, will have an observatory when it is completed in a couple of years.

Read more at: www.theguardian.com

Monitoring Climate from Space

Explore our planet from space and learn how Earth observation is used to monitor climate change, with this free online course.

About the Course

It is increasingly essential for us to study climate change across the planet at the highest level of detail possible. But how can we achieve such a comprehensive worldwide view?

Introducing Earth observation

Seeing the Earth from space allows us to gain this global perspective. By using Earth observation techniques, we can now monitor global environmental change on a scale that has never before been possible.

Earth observation has not only revolutionised the way we perceive our home, but changed the way we understand our profound impact on the environment. This technology has brought on a transformation in the way we observe, monitor and study our planet.

Learn with experts from ESA and leading European research centres

In this free online course, you will join leading experts and scientists from ESA and key European research centres, to explore the science that underpins Earth observation.

We will look at recent and current satellite missions that are providing an archive of essential data; and find out how this data is used in local and international policy and planning.

The course consists of five themed weeks:

Week 1 - Observing Climate Change from Space

What is Earth observation? How do we observe the Earth with satellites? And what role does Earth observation play in climate policy and planning?

Weeks 2 & 3 - Earth Observation Techniques and Technology

How do we use different types of mission, instrumentation and data to study changes to our atmosphere, land, oceans and ice?

Week 4 - Earth Observation in Action

How does Earth observation help us set policy; plan for climate risk, resilience and adaptation; and manage resources and biodiversity?

Week 5 - Managing Earth Observation Data

How do we make sense of the large amount of data produced by Earth observation? Can crowdsourcing and citizen science play a role in developing climate change models?

Requirements

This course is designed for people who want to learn more about Earth observation, climate change and monitoring climate from space. The course can also help decision makers, policy makers, educators and communicators, to gain a better insight into how satellite data can help them assess the state of our climate and its changes, in order to support climate science, and adaptation and mitigation decisions.

Info and joining details at: futurelearn.com

Dimbola Lodge Astronomy Event

In Association with 'Museums at Night'
<http://museumsatnight.org.uk>

Sat 16th May 7.30pm-10.00pm

Dimbola are hosting and VAS are supporting,
by taking along telescopes

Julia Margaret Cameron was friends with John Herschel, so we are using the astronomy and photography connection

- Short talk on the history and Herschel -
- Short talk on astro photography -
- Display about the Herschel historic telescope -
- Member's Images slide show -

Should be fun and really different
The cafe will be open for hot drinks and snacks

Let me know if you can come along, and whether you will bring your own scope or use a club one.

Please reply directly to

elainespearl@gmail.com

Dimbola Lodge
presents
Museums at Night
with
Vectis Astronomical Society
Saturday 16th May 2015 7.30-10.00pm



Dimbola Lodge, Terence Lane, Freshwater Bay, PO40 9QE



FREE event with donations welcome
Suitable for all ages. Wrap up warm

www.dimbola.co.uk

www.wightastronomy.org

Star Gazing Evening

In association with 'Museums at Night', Dimbola Lodge is hosting a stargazing evening with Vectis Astronomical Society.

Julia Margaret Cameron was friends with John Herschel, son of the astronomer William Herschel.

Short talk on the history and connection given by Dimbola, followed by a short talk on Astro Imaging.

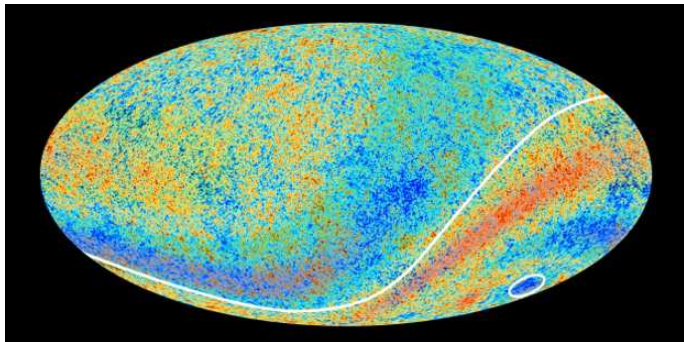
Displays of Astro images taken from the Isle of Wight.

Telescopes and VAS members will guide you around the night sky.

Cafe open for drinks and snacks.



Astronomers discover largest known structure in the universe is ... a big hole



Scientists searching for an explanation for an unusually cool area of sky instead discovered a supervoid: an empty spherical blob 1.8 billion light years across.

Astronomers have discovered what they say is the largest known structure in the universe: an incredibly big hole.

The “supervoid”, as it is known, is a spherical blob 1.8 billion light years across that is distinguished by its unusual emptiness.

István Szapudi, who led the work at the University of Hawaii at Manoa, described the object as possibly “the largest individual structure ever identified by humanity”.

Its existence only emerged thanks to a targeted astronomical survey, which confirmed that around 10,000 galaxies were “missing” from the part of the sky it sits in.

Szapudi’s team was intentionally searching for the void because they believed that it could explain previous observations showing that part of the sky is unusually cool.

The so-called Cold Spot was discovered 10 years ago and has proved a sticking point for the best current models for how the universe evolved following the Big Bang. Cosmological theory allows for a bit of patchiness in the background temperature, due to warmer and cooler spots of various sizes emerging in the infant universe, but areas as large and cold as the Cold Spot are unexpected.

Prof Carlos Frenk, a cosmologist at the University of Durham, said: “The Cold Spot raised a lot of eyebrows. The real question was what was causing it and whether it was a challenge to orthodoxy.”

The latest study suggests that the Cold Spot can be partly explained by a gigantic region of emptiness at its centre, which drains energy from light travelling through it.

More at: www.theguardian.com

Hubble Space Telescope turns 25



It’s up there right now - flying about 340 miles over the Earth and circling us every 97 minutes. It’s a telescope - in the sky. Just think about that for a bit.

It’s called the Hubble Space Telescope. The telescope itself is not really much to look at. If you could see it right now you might think it’s just a big shiny, silver bucket with two gangly solar arms and a couple of dish antennae. It’s about the size of a school bus and weighs about as much as two elephants.

But that silver bucket is pure gold for astronomers. It’s made such a big impact that NASA, the space agency with a fleet of space probes out there taking amazing pictures, calls Hubble the “most significant advance in astronomy since Galileo’s telescope.”

Not bad for a 25 year-old floating bucket.

Hubble didn’t start out winning high marks. It was launched on April 24, 1990, aboard the space shuttle Discovery from Kennedy Space Center, Florida. The next day it was released into space, but scientists soon realized they had a big problem. The telescope’s primary mirror had a flaw: its outer edge was ground too flat by a depth of 2.2 microns - that’s about one-50th the thickness of a human hair.

The images that were expected to dazzle the world were fuzzy.

Hubble became the butt of late-night talk show jokes.

But in December of 1993 shuttle Endeavour astronauts repaired the telescope.

The late-night jokes stopped. And to quote NASA, “our view of the universe and our place within it has never been the same.”

So why is Hubble so special? Because it’s on what NASA calls “the ultimate mountaintop.” Sitting high above the distortion of Earth’s atmosphere, far away from our light-polluted cities and hovering far away from clouds and storms - Hubble has “an unobstructed view of the universe.”

More at: <http://edition.cnn.com/>

10 Astronomy Facts

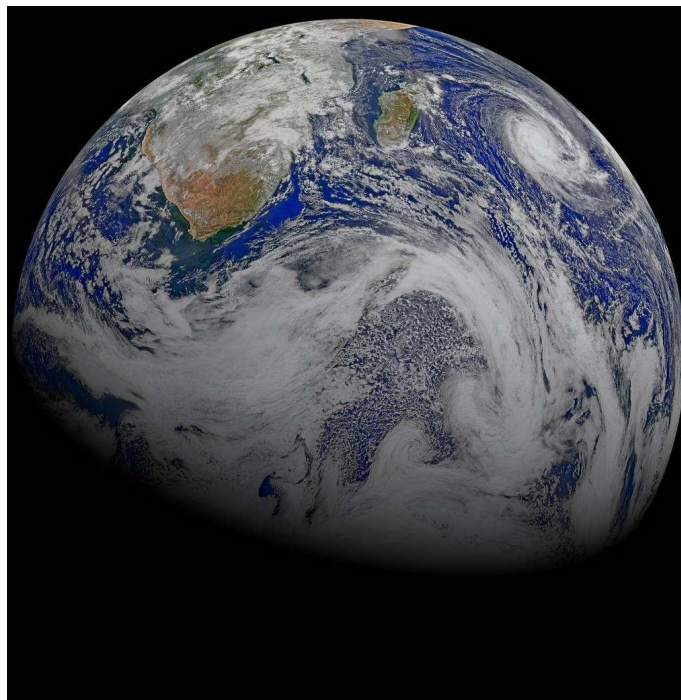
Even though man has studied the heavens for thousands of years, we still know very little about the Universe we live in. And as we continue to learn more, we are consistently amazed, and sometimes confused, by what we learn. Here is a collection of amazing, interesting, and strange astronomy facts, in no particular order.

1. Scientists believe that we can only see about 5% of the matter in the Universe. The rest is made up of invisible matter (called Dark Matter) and a mysterious form of energy known as Dark Energy.
2. Neutron stars are so dense, that a soup can full of neutron star material would have more mass than the Moon.
3. The Sun produces so much energy, that every second the core releases the equivalent of 100 billion nuclear bombs.
4. Galileo Galilei is often incorrectly credited with the invention of the telescope. Instead, historians now believe the Dutch eyeglass maker Johannes Lippershey as its creator. Galileo was, however, probably the first to use the device to study the heavens.
5. Black Holes are so dense, and produce such intense gravity, that even light can not escape. Theoretical physicists predict that there are situations under which light can escape (which is called Hawking radiation).
6. Light from distant stars and galaxies takes so long to reach us, that we are actually seeing objects as they appeared hundreds, thousands or even millions of years ago. So, as we look up at the sky, we are really looking back in time.
7. The Crab Nebula was produced by a supernova explosion in 1054 A.D. The Chinese and Arab astronomers at the time noted that the explosion was so bright, that it was visible during the day, and lit up the night sky for months.
8. Shooting stars are usually just tiny dust particles falling through our atmosphere. Comets sometimes pass through Earth's orbit, leaving trails of dust behind. Then as Earth ploughs through the dust in its path, the particles heat up, creating the streaks in the night sky.
9. Even though Mercury is the closest planet to the Sun, temperatures can reach -280 degrees F. Why? Since Mercury has almost no atmosphere, there is nothing to trap heat near the surface. So, the dark side of Mercury (the side facing away from the Sun) is very cold.
10. Venus is considerably hotter than Mercury, even though it is further away from the Sun. The thickness of Venus' atmosphere traps heat near the surface of the planet

Suomi NPP Delivers Earth Selfies

As astronomers, we spend most of the time looking upwards towards other planets, stars, nebulae and distant galaxies.

NASA has been doing the same for many years but they also have some stunning "selfies" of earth on their website.



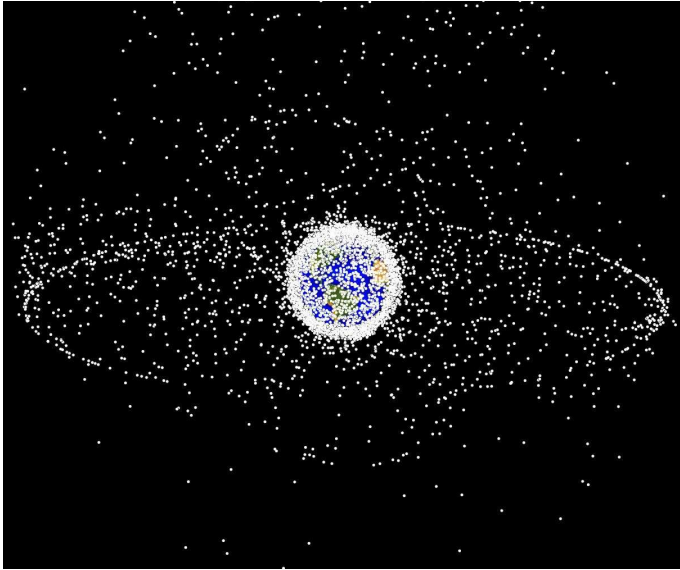
This composite image of southern Africa and the surrounding oceans was captured by six orbits of the NASA/NOAA Suomi National Polar-orbiting Partnership spacecraft on April 9, 2015, by the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument. Tropical Cyclone Joalane can be seen over the Indian Ocean.

Winds, tides and density differences constantly stir the oceans while phytoplankton continually grow and die. Orbiting radiometers such as VIIRS allows scientists to track this variability over time and contribute to better understanding of ocean processes that are beneficial to human survival on Earth. The image was created by the Ocean Biology Processing Group at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

More at: www.nasa.gov

The NASA website should be among everyone's bookmarks or favourites as it is constantly being updated and just about everything there is published in the public domain for us to use completely free of charge.

Space Debris



Space debris, also known as orbital debris, space junk and space waste, is the collection of defunct objects in orbit around Earth. This includes spent rocket stages, old satellites and fragments from disintegration, erosion and collisions. Since orbits overlap with new spacecraft, debris may collide with operational spacecraft.

As of 2009 about 19,000 pieces of debris larger than 5cm (2in) are tracked, with 300,000 pieces larger than 1 cm estimated to exist below 2,000 kilometres (1,200 mi). For comparison, the International Space Station orbits in the 300–400 kilometres (190–250 mi) range and the 2009 satellite collision and 2007 antisat test events occurred at from 800 to 900 kilometres (500 to 560 mi).

Most space debris is smaller than 1cm (0.4in), including dust from solid rocket motors, surface-degradation products (such as paint flakes) and frozen coolant droplets released from RORSAT nuclear-powered satellites. Impacts by these particles cause erosive damage, similar to sandblasting, which can be reduced by the addition of ballistic shielding (such as a Whipple shield, used to protect parts of the International Space Station) to a spacecraft. Not all parts of a spacecraft can be protected in this manner; solar panels and optical devices such as telescopes or star trackers are subject to constant wear from debris and micrometeoroids. Below 2,000 kilometres (1,200 mi), the flux from space debris is greater than that from meteoroids. Decreasing risk from space debris larger than 10cm (4in) is often obtained by manoeuvring a spacecraft to avoid a collision. If a collision occurs, the resulting fragments can become an additional collision risk.

Since the chance of collision is influenced by the number of objects in space, there is a critical density where the creation of new debris is theorized to occur faster than

natural forces remove them. Beyond this point a runaway chain reaction (known as the Kessler syndrome) may occur, rapidly increasing the amount of debris in orbit and the risk to operational satellites. Whether the critical density has been reached in certain orbital bands is a subject of debate. A Kessler syndrome would render a portion of useful polar-orbiting bands difficult to use, increasing the cost of space missions. The measurement, growth mitigation and potential removal of space debris are conducted by the space industry.

Threat to Earth

Although most debris burns up in the atmosphere, larger objects can reach the ground intact. According to NASA, an average of one catalogued piece of debris has fallen back to Earth each day for the past 50 years. Despite their size, there has been no significant property damage from the debris.

The original re-entry plan for Skylab called for the station to remain in space for eight to ten years after its final mission in February 1974. High solar activity expanded the upper atmosphere, resulting in higher-than-expected drag and bringing its orbit closer to Earth than planned. On 11 July 1979 Skylab re-entered the Earth's atmosphere and disintegrated, raining debris along a path over the southern Indian Ocean and Western Australia.

On 12 January 2001, a Star 48 Payload Assist Module (PAM-D) rocket upper stage re-entered the atmosphere after a “catastrophic orbital decay”, crashing in the Saudi Arabian desert. It was identified as the upper-stage rocket for NAVSTAR 32, a GPS satellite launched in 1993.

In the 2003 Columbia disaster, large parts of the spacecraft reached the ground and entire equipment systems remained intact. NASA has warned the public to avoid contact with the debris because of the possible presence of hazardous chemicals.

On 27 March 2007, airborne debris from a Russian spy satellite was seen by the pilot of a LAN Airlines Airbus A340 flying over the Pacific Ocean between Santiago and Auckland with 270 passengers. The pilot estimated that the debris was within 8 kilometres (5.0 mi) of the aircraft, and he heard a sonic boom as it passed.

In 1969 five sailors on a Japanese ship were injured by space debris, probably of Russian origin. In 1997 an Oklahoma woman, Lottie Williams, was uninjured when she was hit in the shoulder by a 10cm × 13 cm (3.9 in × 5.1in) piece of blackened, woven metallic material confirmed as part of the propellant tank of a Delta II rocket which launched a U.S. Air Force satellite the year before.

Read more at: <http://en.wikipedia.org>

THE BACK PAGE

LINKS, COMMENTS AND OBSERVATIONS

EESA - Calling all Photographers

13 April 2015 - For the launch of Sentinel-2A, ESA is inviting you to take part in a photo contest focusing on the theme of 'colour vision'. Enter for a chance to win a trip to ESA's operations centre for the satellite's launch event.

The Sentinels are a fleet of satellites designed specifically to deliver the wealth of data and imagery that are central to the European Commission's Copernicus programme.

This unique environmental monitoring programme is making a step change in the way we manage our environment, how we understand and tackle the effects of climate change and even safeguard our everyday lives.

Sentinel-2 carries an innovative high-resolution multispectral imager with 13 spectral bands for a new perspective of our land and vegetation.

The mission comprises two satellites, with the first – Sentinel-2A – scheduled for launch on 12 June.

Ahead of the launch, ESA is inviting photographers to take part in a competition with the theme of 'colour vision'. The judges will be looking for an image that not only expresses this theme, but also connects with the mission's application areas.

More info at: www.eesa.int

How Long Are Years On Other Planets?



A year is defined as the time it takes a planet to complete one revolution of the Sun, for Earth this is just over 365 days. This is also known as the orbital period. Unsurprisingly the length of each planet's year correlates with its distance from the Sun. The precise amount of time in Earth days it takes for each planet to complete its orbit can be seen below.

- Mercury: 87.97 days (0.2 years)
- Venus: 224.70 days (0.6 years)
- Earth: 365.26 days (1 year)
- Mars: 686.98 days (1.9 years)
- Jupiter: 4,332.82 days (11.9 years)
- Saturn: 10,755.70 days (29.5 years)
- Uranus: 30,687.15 days (84 years)
- Neptune: 60,190.03 days (164.8 years)

Observatory

When visiting the VAS observatory, for your own safety, please bring a torch. Also, please make sure you close and lock the car park gate if you are the last to leave - if you need the combination to the lock, please contact a member of the committee.

Articles Needed

New Zenith needs letters, articles, reviews or pictures related to all aspects of astronomy.

Contributions to the Editor please at the email or postal address on the front page.

“In a chemical sense, we really blend in with the people around us like spilled paint; your molecules and mine are continually drifting off the surface of our skin, breathed out of our noses, flaked off hair and scalps. Individuals don't have sharp edges. We blur into each other's space like perfume molecules wafting from an open bottle.”

*“I don't want to believe,
I want to know”*

Carl Sagan