

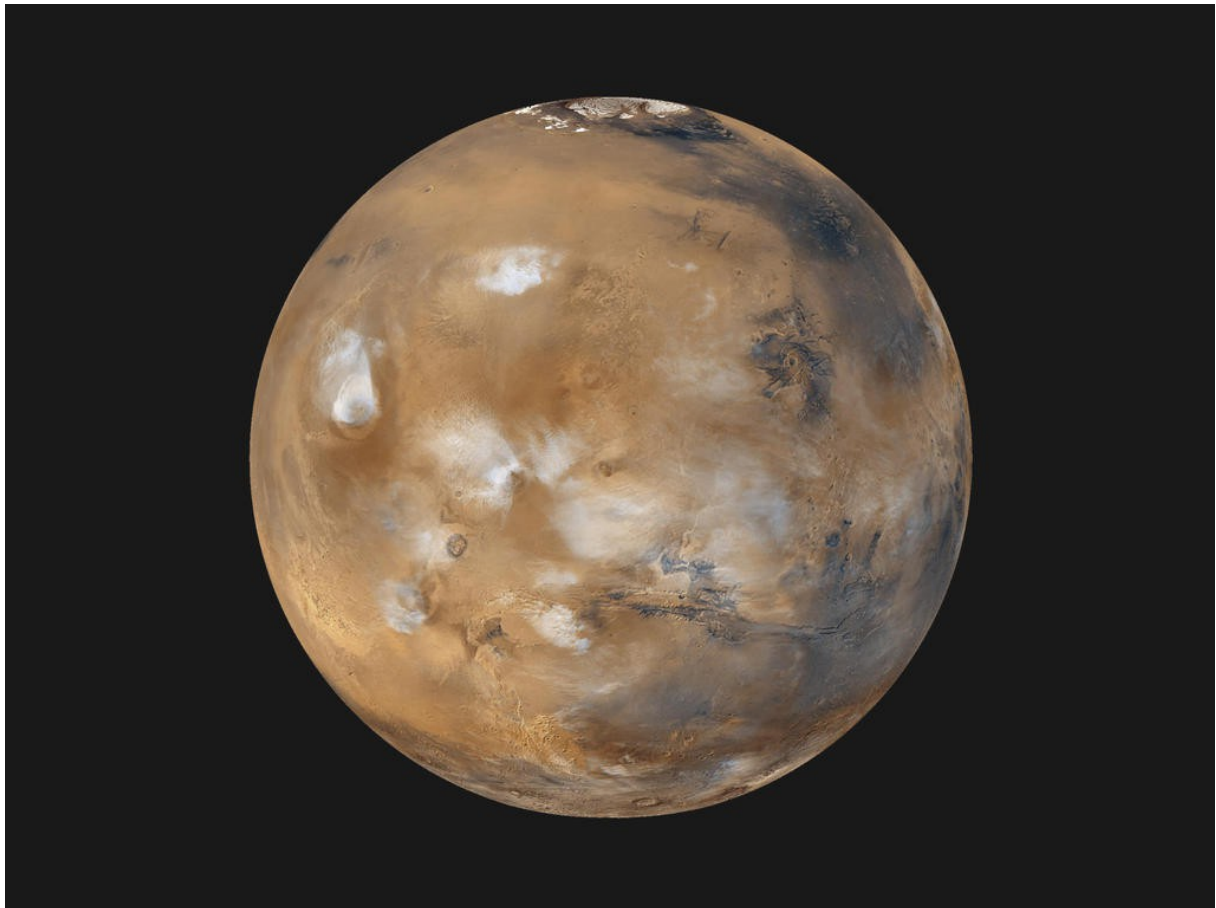
Thanet Astronomy Group

Astronomy for Everyone in Plain English

NEWSLETTER

June 2016

Mars



This image provides a global "snapshot" of weather patterns across the planet. Here, bluish-white water ice clouds hang above the Tharsis volcanoes.

Credit: NASA/JPL-Caltech/MSSS

This space is reserved for promoting members' businesses.

You can place an advert here for a donation to the group.

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Executive Committee Messages

June 2016

The month of June will start with :-

June 1st Summer is here at last !!

This month is the only month in the year that gets off to a cracking start

Wednesday's members' meeting is on the 1st !!

June 4th Will start the Saturday meetings.

Please Note : This is the start of the SUMMER season at the cafe and the summer members' meetings will start at 8:00pm :-

1st June 2016 at 8pm

6th July 2016 at 8pm

3rd August 2016 at 8pm

7th September 2016 at 8pm

Beginners' Guide to Stargazing Course

All those that would like to attend this course (details on the web site) please email ThanetAstronomyGroup@gmail.com to register your interest.

Telescope Making Group

This year 2016 we will be starting work on the first of 3 telescopes we hope to make this year.

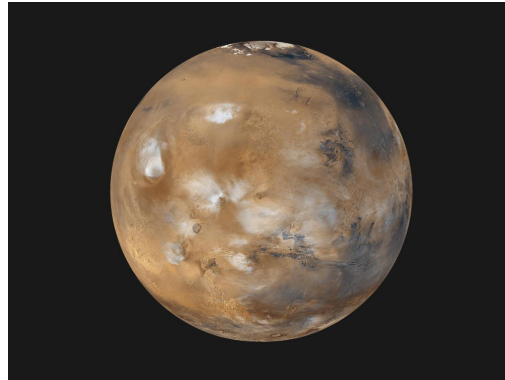
Note : There is no knowledge or experience needed to join this workshop.

All those that would like to attend the Telescope Making Group Please email ThanetAstronomyGroup@gmail.com to register your interest.

Danny, George, Gill.

About the Cover Picture

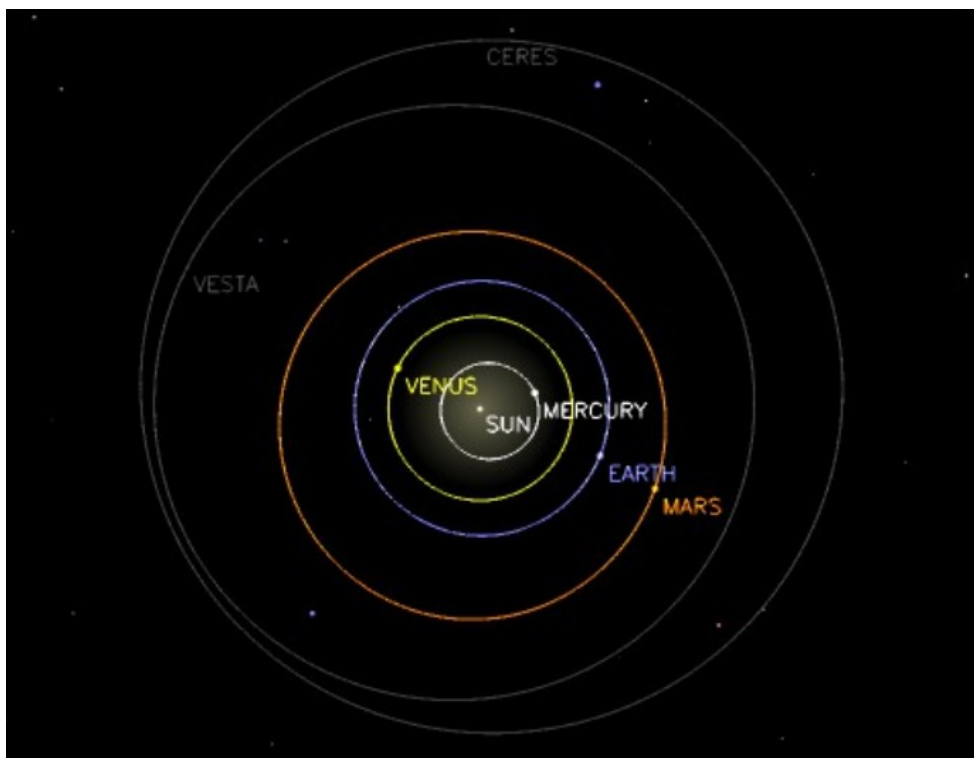
Mars



This image provides a global "snapshot" of weather patterns across the planet. Here, bluish-white water ice clouds hang above the Tharsis volcanoes.

Credit: NASA/JPL-Caltech/MSSS

On the 30th March Mars will be at its closest to Earth in the last 11 Years ! It will come within 47.2 million miles (75.9 million kilometres). Earth and Mars become close to each other when their individual orbits align in the same side of the Sun.



Inner Solar System Planet positions at 30 March 2016

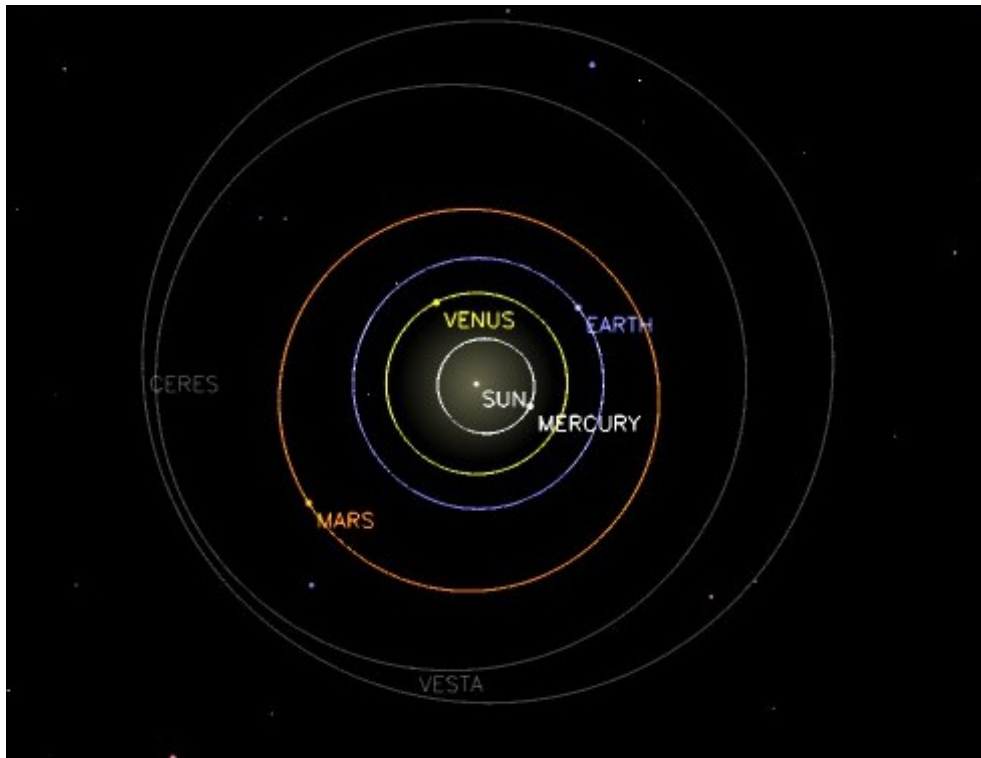
Simulator Developer / Graphic Artist: David Seal – seal(at)jpl.nasa.gov

You can see from the above picture that both Mars and Earth are aligned at about 4 o'clock from the Sun, placing them at their closest point to each other in their respective orbits.

About the Cover Picture

Mars

This is opposed to when the Earth is on one side of the Sun at a distance of 93 million miles (149 million kilometres) from the Sun, and Mars is on the other side of the Sun at a distance of 141 million miles (228 million kilometres) from the Sun, as in the picture below. A separation of 234 million miles (376 million kilometres).



Inner Solar System Planet positions at 30 July 2017

Simulator Developer / Graphic Artist: David Seal – seal(at)jpl.nasa.gov

Although Mars was not visible on the 30th May 2016 (locally due to bad weather) it will, of course, still be very close for some time to come and there is your chance to go out and have a look as soon as there is a clear night.

Mars is known as the red planet. This is because it has a reddish / brown tint to it when looked at, even by eye in the night sky. (The younger you are the more you will be able to notice this). When observed with a big enough telescope Mars is usually bright enough to show a little colour. However, as usual, the best way to see colour is to use a camera, tracking and a longer exposure.

Mars was named after the Roman God of War, 'Mars', due to its reddish tint. It was believed that the red colour of Mars was blood. Today we know that the red colour comes from the amount of iron oxide on the surface of Mars (rust).

A day on Mars is very close to a day on Earth - at just 23.7 hours instead of our 24 hours. Due to the fact that Mars orbits much further away from the Sun than we do its orbit is much larger in circumference and therefore its year is 697 Earth days.

The orbital speed or velocity is also not the same as the Earth, at 18.5 miles per second (29.7 kilometres per second). Mars orbits a little slower at 15 miles per second, (24.1 kilometres per second). Also the mass of the two planets is very different. Earth at 6.58×10^{21} tons and Mars at 0.708×10^{21} tons.

Danny.

Thanet Astronomy Group Contact Details

Executive Committee

| | | |
|-----------|-------------|---------------|
| Chairman | Daniel Day | 01843 228 904 |
| Treasurer | George Ward | 01843 292 640 |
| Secretary | Gill Palmer | 07543 942 245 |

Committee

| | | |
|------------|----------------|---------------|
| Volunteers | George Cozens | 07970 181 395 |
| Members | Sheila Tomkins | 07791 892 057 |
| Newsletter | Janet McBride | 01227 364 092 |
| Newsletter | Tracy Howes | 07917 710 638 |
| Library | Janet McBride | 01227 364 092 |
| Web Site | Danny Day | 01843 228 904 |
| JAC & Gill | Gill Palmer | 01843 848 064 |

Co-opted Members

| | | |
|----------------|----------------|---------------|
| Vice Chair | Sheila Tomkins | 07791 892 057 |
| Vice Treasurer | Tracy Howes | 07917 710 638 |
| Vice Secretary | Janet Mc Bride | 01227 364 092 |

Members' Meeting Dates and Times

Thanet Astronomy Group

Members' Meetings

Dates and Times

6th January 2016 at 7:30pm

3rd February 2016 at 7:30pm

2nd March 2016 at 7:30pm

6th April 2016 at 7:30pm

4th May 2016 at 7:30pm

1st June 2016 at 8pm

Next Meeting

6th July 2016 at 8pm

3rd August 2016 at 8pm

***** 7th September 2016 at 8pm *****

***** Anniversary Three Years at West Bay Cafe Party *****

5th October 2016 at 7:30pm

2nd November 2016 at 7:30pm

***** 7th December 2016 at 7:30 for 8:00pm *****

***** Christmas Evening Meal and Entertainment *****

All Members' meetings will be held at the :-

West Bay Cafe, Sea Road,

Westgate-on-Sea,

Kent.

CT8 8QA

Advertisement

WEST BAY CAFE

Sea Road, Westgate-on-Sea
CT8 8QA

Location :-

This Family Friendly Cafe is situated on the promenade just beside the sandy beach opposite the junction of Sea Road and Rowena Road, Westgate-on-Sea, CT8 8QA.

Access :-

via a flight of steps behind the cafe.

Disabled Access :-

via the main entrance to the bay and a slope at the cafe door.

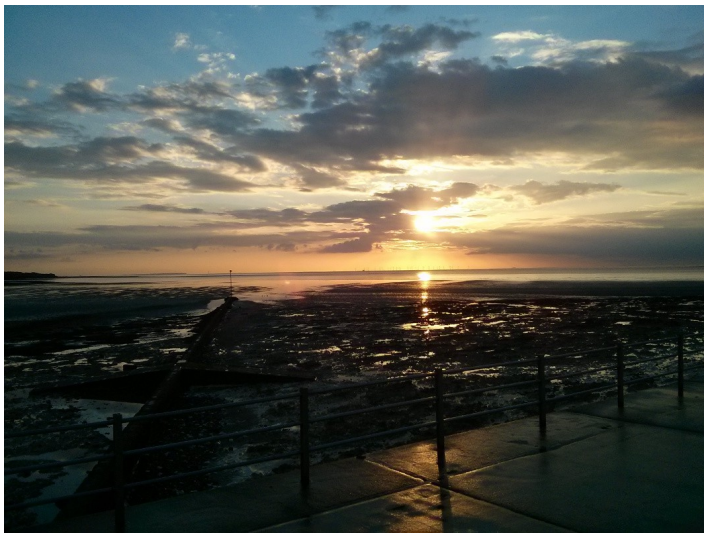
West Bay Cafe run by Alan and Kate has a very friendly atmosphere.



Alan outside the new style West Bay Cafe

There is a wide variety of good food and drinks at very reasonable prices and there are always special offers.

There is seating both inside and outside for those extra hot days.



A Typical Sunset at the West Bay Cafe

The Sunsets at the West Bay Cafe are Spectacular.

With a meal, some friends, and a pint or two.

What more could you ask for!

West Bay Cafe have hosted Thanet Astronomy Group since September 2013.

We would like to say a **HUGE THANK YOU to Alan and Kate** for all the help and support they have shown us over the last year.

Please use this Brilliant Seaside Cafe and Tell Your Friends.

What we did in May

Wednesday 4th May Members' Meeting

Today was our second AGM !! For an AGM we had a good turnout. The main points of the AGM were as follows :-

- 1). Opening of Meeting – Danny Day (Chairman)
- 2). Apologies – Gill Palmer (Secretary)
- 3). Confirmation of Minutes of previous Annual General Meeting : (Adopted unanimously)
- 4). Presentation of Annual Reports
- 5). Adoption of Annual Reports : (Adopted unanimously)
- 6). Election of Executive & Committee Danny Day / George Ward : (All re-elected unanimously)
- 7). Vote of thanks to any outgoing members if applicable
- 8). Determination of Annual Membership Fee Danny Day : (No change £24 Adult £12 Junior)
- 9). Notice/s of Motion : (None)
- 10). Urgent general business : (None)
- 11). Amendments – Correction – Additions :- to the Constitution : (None)
- 12). AOB : (None) : Meeting Close

Then those members present attended the after-AGM Viewing evening. Danny had the 8” Celestron trained on Jupiter with a Canon 600D attached in Prime Focus mode so that the members could all see Jupiter on the screen. Pictures below are an example of single shot short exposure with no tracking!

At first the camera was set up to show a stunning wide angle view of Jupiter and its four Galilean moons, Callisto, Ganymede, Io and - on the other side of Jupiter - Europa.



Pictures of Jupiter and its four large moons taken 4/5/16 at the Cafe

Left to right :- Callisto, Ganymede, Io, Jupiter and Europa

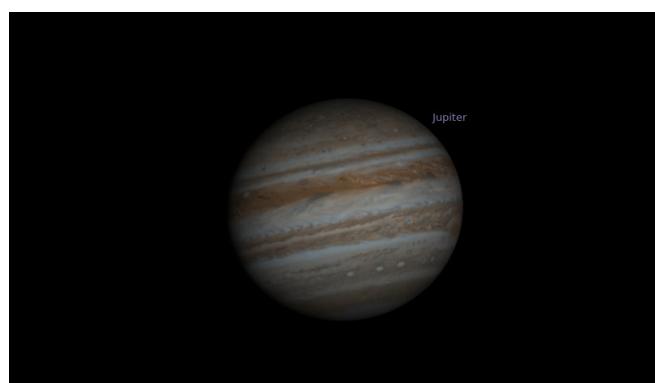
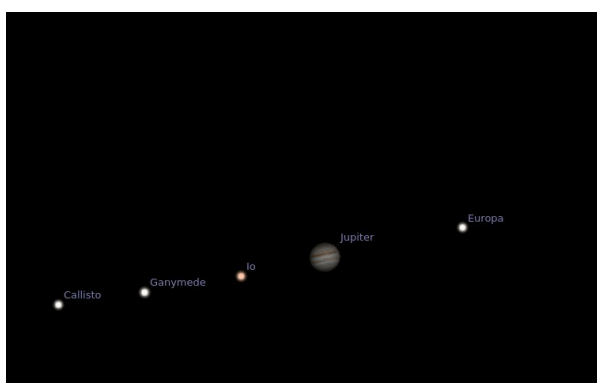
Then the ISO setting was changed to enable a clear view of Jupiter itself. This was needed because Jupiter is a very bright object. We all then saw the weather / cloud systems forming the familiar bands around the planet.

What we did in May



Pictures of Jupiter taken 4/5/16 at the Cafe

The rotation on the above pictures is due to the angle the camera was mounted on the telescope.



The same pictures taken from Stellarium

At the same time George W had the 6" Skywatcher out and was taking the opportunity to familiarise some of our newer members with views of Jupiter and point out a few constellations. For those willing to hang around until midnight there was the chance to see both Saturn and Mars, but sadly no takers. Another time perhaps.

Saturday 7th May Public Outreach Meeting

Fine weather brought out many people to the Westbay cafe and, as usual, there was much interest in our presence. Chris W introduced Gordon to me and to our group. Although he only visits Westgate from time to time Gordon said that he would like to join us as a member. We are always pleased to enrol new members.

Anthony John one of our newest members (he joined at the AGM on Wednesday 4th) brought along his refractor that he recently bought on e-bay, and we had a lot of fun trying out some of my eyepieces and introducing him to the Barlow range. We also attached my camera and took a few images, something in which Anthony showed great interest.

What we did in May

Lee-James Drury also joined our group today. He brought along his family who were entertained by Gill, they all had a great time.

Saturday 14th May Public Outreach Meeting

Another fair weather day, spring really is here and summer is fast approaching. There was a lot more people around due to the improved weather and many interested in what we were doing. As the sun was out and there were several sun spots we were looking at them and taking pictures.



< Left

Picture of the Sun taken with a Nexus 4 Mobile Phone just held in front of the telescope (Celestron C8-N) eyepiece.

Right >

The same picture enlarged to show the Sun spot close to the lower left edge of the Sun.



There are several ways pictures can be taken through a telescope and they range from very quick and easy to quite complicated and expensive. Either way good pictures can be achieved.

Saturday 21st May Public Outreach Meeting

Today started off very slowly with very few people around, but by 1:30pm people started to arrive. We caught the occasional glimpse of the Sun in-between the clouds. One lady was very interested in how the telescopes were set up and how to overcome the common beginners' problems like being able to find anything at all in the sky.

Saturday 28th May Public Outreach Meeting

Today was a fairly quiet and over cast day although the Sun did come out for a few short moments.

There were still quite a few interested members of the public asking questions and looking through the telescopes. Some of the more interested were invited to the next members' meeting to see more of what our group is about.

Gill was especially busy with the junior group today with many excited children. She also even had a real meteor and two trays of the rocket seedlings, one containing seeds from the International Space Station and one of seeds not taken into space.

See <https://principia.org.uk/activity/rocketscience/> for more details.

Danny.

Renaissance Glass

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NEEDS FOR GLASS
GLASS FOR ALL USES**

Pictures
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Doors
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Mirrors
Roofs
Floors
Kitchen Splash Backs
(coloured)
Table Tops
Double Glazed units
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Leaded Lights traditional and
modern overlay to your design
Window Filming



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Email : renaissanceglass@btconnect.com

39 - 41 Sweyn Road, Cliftonville, Margate CT9 2DD

Book review

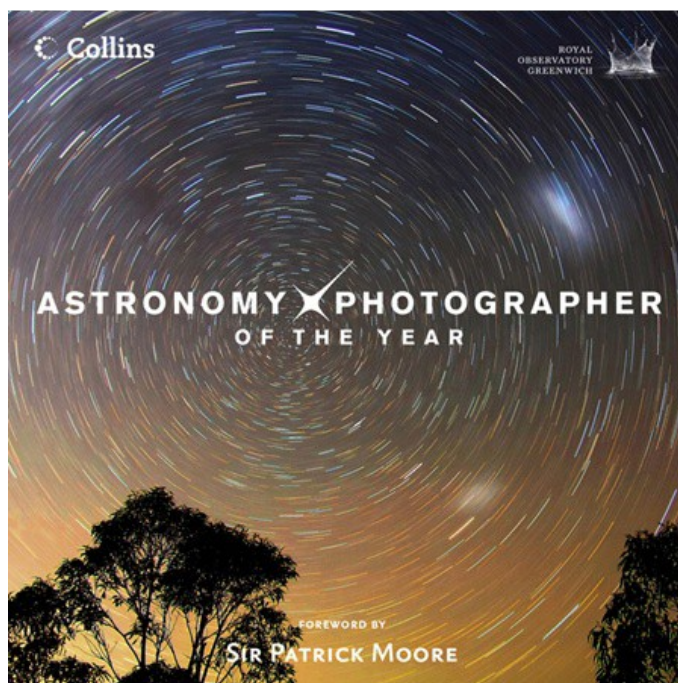
Astronomy Photographer of the Year

I found this book in my local library.

It is a lovely book, full of amazing photographs. As I was looking through the book, I found myself wanting to get out my camera to see what I could do!

The book covers the competition from 2009 to 2012 and has the winner, runner-up and highly commended photographs from each category, for each year.

The competition has quite a few categories – Earth and Space, Our Solar Systems, Deep Space, Young Astronomer Photographer of the Year. There are also special prizes – People and Space, Best Newcomer and Robotic Scope.



Astronomy Photographer of the Year

There are photographs of the Moon, Sun, Northern Lights, Milky Way, Nebulae, Mars, Jupiter, Saturn, Star Trails..... the list could go on and on.

For each photograph there is a little write up of the subject and also what equipment was used to take the photograph along with some other information. On a photograph taken by Thomas Davis of the Eta Carina Nebula the books says 13.5 hours worth of exposures!! Now that's dedication!

I would love to be able to take a photograph a fraction as good as the ones in this book. I suppose that means I need to practise, practise, practise!

[Sorry all: I Read this... and went out and picked this book up from the Library. With luck I will return it by the time this newsletter is published :From Danny :-) or bring it to the members' meeting.]

Tracy Howes.

What's in the sky this month ?

Mars, Saturn and Jupiter

What to see Saturday 4th June at 10:00pm

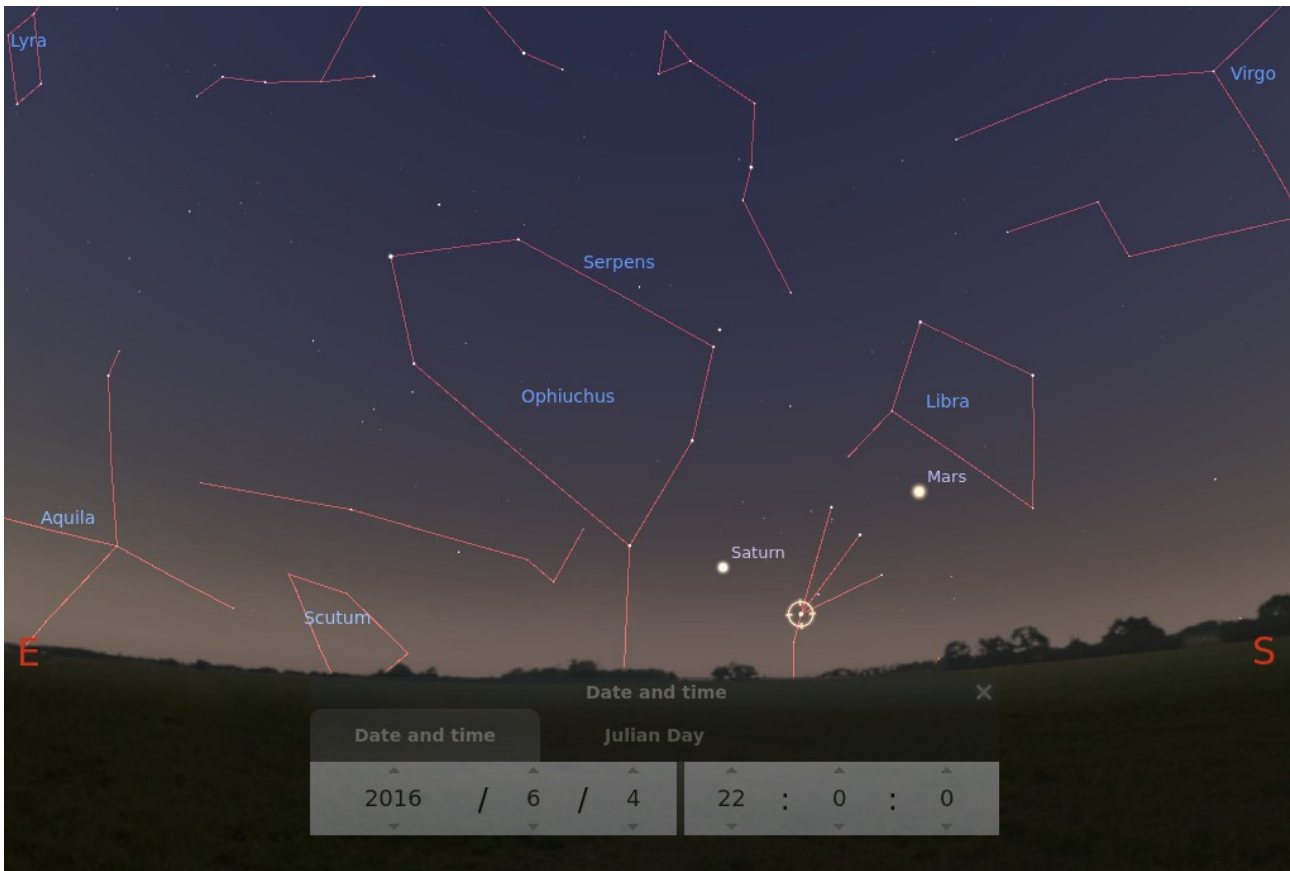
Planets (Mars, Saturn, Jupiter)

Constellation (Scorpius, Leo)

Star (Antares)

For the next few weeks at about 10pm **Mars** and **Saturn** will sit just above the horizon, either side of the star **Antares**, (in the white circle) the main or 'alpha' star of the constellation **Scorpius**. This constellation only pokes its head just above the southern horizon at this time of year and it disappears again by the end of July. On the 30th May **Mars** will be at its closest point to Earth at only 46 million miles, 75 million kms, or .5 AU, this happens every 2 years. The AU or Astronomical Unit is a measurement used by astronomers. It is equal to the distance between **Earth** and the **Sun**. 93,000,000 miles or 150,000,000 kms.

Look south east and you will see Saturn and Mars just above the horizon. You will need a clear view and a clear sky. Looking off the coast from the cliff top at Government Acre, Ramsgate towards Sandwich would give you the best chance. Both of these planets can be seen by eye and will look like bright stars. I'm always fascinated by **Saturn**, I remember the first time I viewed it through a telescope, it was a jaw dropping moment.



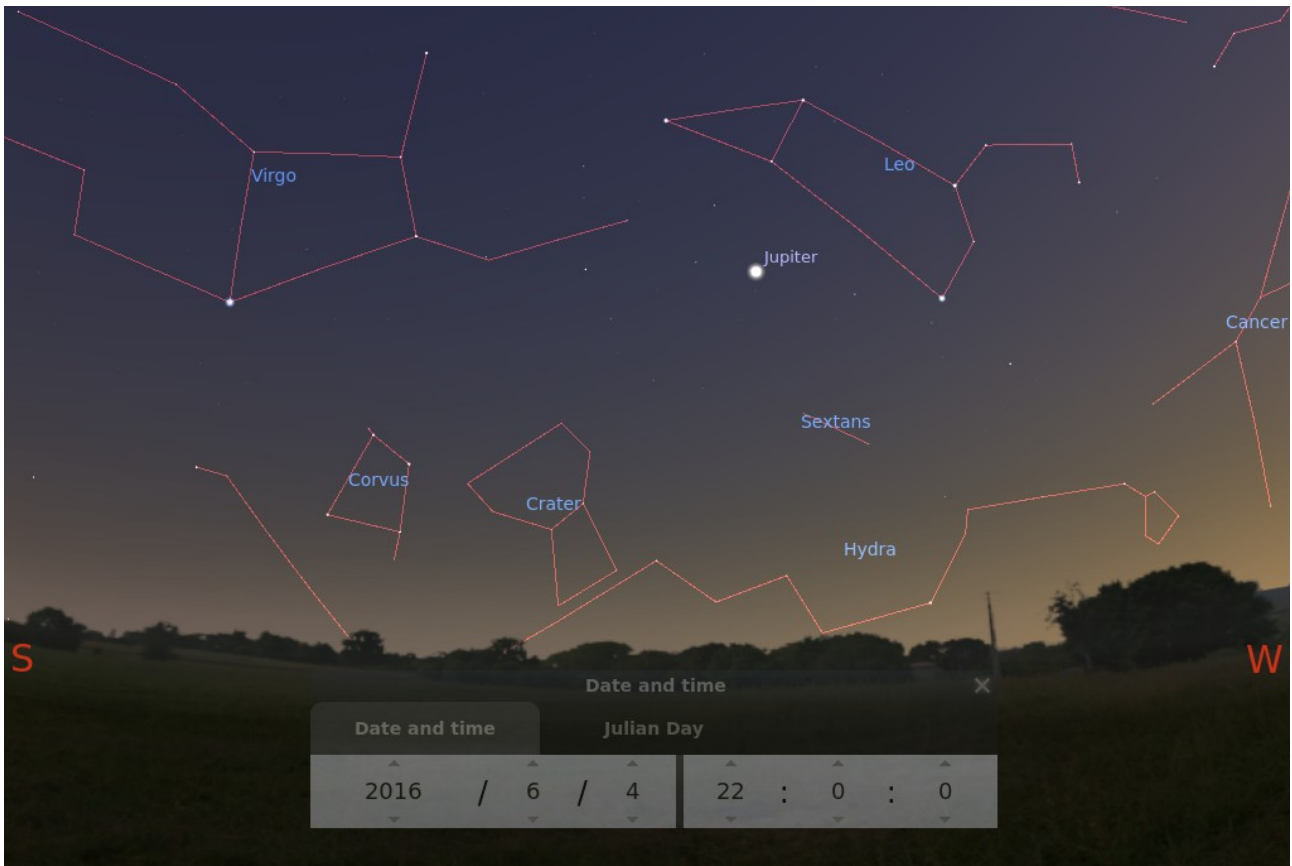
Saturn and Mars in the South East

What's in the sky this month ?

Mars, Saturn and Jupiter

Saturn travels at about 21,000 mph or 34,000 kph around the Sun and takes almost 30 years to complete one orbit of the Sun. At the moment it's about 9 AUs from **Earth**.

You can also see **Jupiter** the date above, it can be found due south west just below the constellation of **Leo**. Jupiter will be brighter than all the other stars. With a telescope or a pair of binoculars you can even see its four Galilean moons, Io, Europa, Ganymede and Callisto, always worth a look. At the moment it's about 466 million miles or 750 million kms from Earth, it travels at 29,200 mph and takes 12 years to complete one orbit of the **Sun**.



Jupiter in the South West

If you would like any help with seeing the objects in this article or astronomy in general we would be happy to help you.

Contact Details

Website www.ThanetAstronomyGroup.com

Email ThanetAstronomyGroup@gmail.com

Or come and meet us over a cup of tea at West Bay Cafe, Westgate-on-Sea, CT8 8QA.

Saturday afternoons 1-4pm.

George Ward / Danny

Member's Page

Membership Fees Are Due !

Don't forget membership fees for 2016-17 were due back in APRIL.

Please see George Ward on a Saturday afternoon or the next Members' meeting on Wednesday evening 01 June 8.00pm start

Stargazing Course:

We are now taking names for the next Stargazing course to start in September 2016. Again please give your names to any Committee members. If you want to know more about this excellent course, please either ask a Committee member or look on the Thanet Astronomy Group web page: <http://www.thanetastronomygroup.com/courses.html>.

Telescopes:

Thanet Astronomy Group has a few small telescopes that have either been bought from Group funds or have been donated.

These telescopes are available for members to borrow:--

The Thanet Astronomy Group Constitution states:-

Section 5.) Equipment:

The Group may provide loan equipment that members can use to develop their interest in astronomy.

- 5.1) The Group may make equipment available to members to develop their interest in astronomy.
- 5.2) The use of such equipment shall be at the discretion of the Executive Committee, who will arrange a timetable for use with the member(s) concerned.
- 5.3) Preference will be given to members who submit a written application to the Executive Committee, detailing their intended use.
- 5.4) In the event of loss or damage to equipment, either belonging to The Group or on loan to The Group, the member(s) responsible shall bear the cost of repair or replacement, unless exempted in part or whole by the Executive Committee.

Telescopes either bought or donated are:-

- 1: Meade ETX 70 GoTo: (Not useable - ultra dirty – no stand tripod) Awaiting Repair and Tripod
- 2: Helios Newtonian D114 F900: EQ2 mount: (Needs clean) } Single axis motor drive can be installed if required
- 3: Helios Newtonian D130 F1000: EQ2 Mount } for both 2 and 3
- 4: Telementor 2: Complete – antique value approx.: £1500-2000 !
- 5: Model 76700 D76 F700. This was donated for the mirrors as the telescope is no good as a whole

As you can see from the above – work needs to be carried out on a couple of the scopes, however, number 3 is ready for use.

There are also another couple of telescopes owned by members that may be borrowed under specific circumstances. There is an application form currently being developed and this will be available on the website shortly. Any queries please contact Danny Day or George Ward.

Sheila Tomkins

Did You Know ?

Do constellations exist ?

I was asked recently by a 9 year old boy “Which is the nearest constellation ?”! This is a very good question.

After having talked to him at length about constellations I then had to explain to him that actually, they don't exist !!!

At which point he, quite rightly, looked puzzled.

There are no red lines in the sky joining up stars and defining any of the 88 constellations, they exist only in our imagination.

Constellations are arrangements of stars which, over thousands of years, have been named by various cultures such as the Greeks and Arabs who saw them as human and animal forms in the sky.

Up until the 15th century just 48 constellations were named, these were mostly in the northern hemisphere, but as time passed and man explored our planet the southern hemisphere was charted, the telescope was invented, and many dimmer stars became visible.

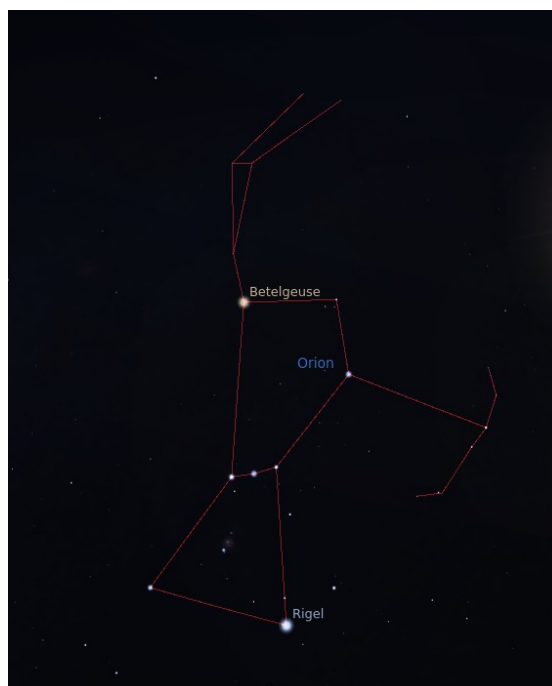
The more recent constellations have been named after objects like Telescopium (telescope) and Sextans (sextant). Incidentally the 88 constellations that we use in the western world are those officially recognised by the International Astronomical Union. There are up to a thousand others which have been named by various other cultures.

Of course we can only observe the heavens from our planet Earth, but if we could travel many thousands of light years in any direction, the patterns of stars as we know them, would appear unrecognisable. This is mainly due to all the stars, and therefore those of any one constellation being at greatly varying distances from Earth.

Let us take a look at Orion the Hunter, visible in the evening sky between November and February, Betelgeuse is somewhere between 450 and 625 light years distant, Bellatrix is about 244 ly, Rigel is 722 ly, Saiph is 820 ly while the 3 stars forming the belt, Alnitak, Alnilam and Mintaka range between 800 and over 1000 light years away.

As you can see their distances from Earth are not measured in tens but hundreds of light years.

One of the great benefits of constellations is their usefulness in navigating the night sky, so get to know some of them and find your way around more easily.



Orion the Hunter

George W.

Junior Astronomers' Club (JAC & Gill)

JAC and Gills

After last month's amazing first hand experience of hearing Tim Peake speaking to Thanet school children, from the International Space Station right over our heads. We were hard pushed to try to beat that “out of this world” experience this month...but we tried!

Since the dawn of time, people have been pondering over the question of who created the Earth... and JAC and Gill have found out....

Thanks to our very own “Creator”, Tracy Howes, we now have the Earth AND the whole of our Solar System in the palm of our hands...literally!!!



Eight Planets + Pluto :-) and some of the comets



In a flash of inspiration, she very cleverly produced our Sun and all 9 planets (YES...9...she couldn't leave out Pluto!) especially for our Junior Members to use on Saturday afternoons!

Not only is it a fantastic teaching aid but it is really good fun to play, as Tracy also made 5 personalised comets to hurtle through space with the intention of trying to aim at the planets without them exploding!

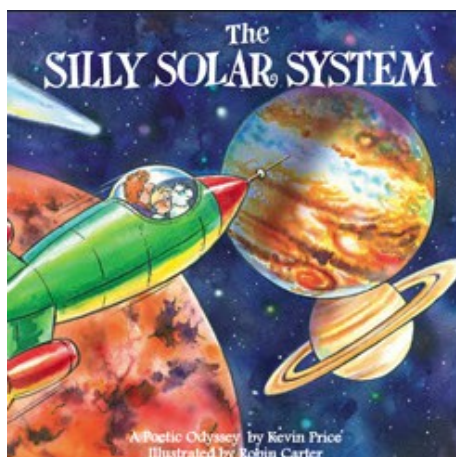
As you can see by our action photos, the activity went down a treat and the Juniors were heard shrieking with laughter on the prom whilst learning about the planets they were aiming at!

Junior Astronomers' Club (JAC & Gill)

JAC and Gills

But that wasn't the only treat in store for them, as they were also presented with a wonderful storybook to settle down to after their strenuous activities.

Charlotte's Mum very kindly donated "The Silly Solar System" to add to our wealth of resources, which even our youngest members were keen to listen to!



The Silly Solar System

It cleverly mingles a mixture of rhyme and humour to keep the reader amused as well as imparting factual information to broaden the mind. Although aimed at children, the content amused the adult listeners too!

But it didn't end there... Dacey's Dad has also very generously donated a new Junior Telescope to JAC and Gill to enable the younger members to continue their exploration into Space. We may not be able to see as deep into Space as the Hubble Telescope but it's a start for our budding future astronomers.

Now all we need are the Heavens to open their gates and provide us with suitable weather conditions to be able to pursue our hobby successfully... so if someone up there is listening... please can we have good clear skies for JAC and Gill during the children's forthcoming half term holiday so we can have a stargazing party!!!

Many thanks to Tracy, Sally and Lee for their generous gifts and for continuing to support the children in this amazing hobby on Saturday afternoons!

Reach for the Stars!

Newsflash!

I am fortunate enough to be teaching at the moment in a school where they have received some of Tim Peake's Rocket seeds from on board the ISS... watch this space for their progress!

Gill Palmer.

Adult Word Search

**ASTRONOMY
GANYMEDE
MARS
SATURN**

**CALLISTO
IO
NEBULAE
SCORPIUS**

**EUROPA
JUPITER
PHOTOGRAPHER
SUNSPOTS**

G L J C J J G F U K H K P V V
S P D Y D J J Z K G C U C X P
A T H X S V G R O F O S P V K
T W O O T P R E T I P U J X Q
U E I P T B X L S K P I K S N
R K D R S O B V I X G P B G E
N Y U Z B N G O L D L R F A R
P A Q K E E U R L D J O X N T
Y M O N O R T S A O A C T Y H
U A V R E E M W C P X S J M L
W R D H U B Q L E E H P L E C
G S T Q R Y U S U M T E F D J
H V T Z O E O L C G T Z R E P
M A I D P N G Z A Q L W U U F
J V H M A B K K I E N I S I Y

Danny.

Junior Word Search

ASTRONOMY
METEORITE
SEEDS

ISS
MOONS
SUNSPOTS

JUPITER
ROCKET
TELESCOPE

A J U P I T E R B
V S U N S P O T S
J E T F S N O O M
R W M R O C K E T
M E T E O R I T E
P L Z P P N X G B
T E L E S C O P E
N I S D E E S M R
G L X D B C J B Y

We hope that you find the Adult and Junior word searches interesting and that they inspire you to look up any of the words you don't know *Absolutely Everything About :-)*

If you like these please let us know and we will continue to produce them.

We are thinking of adding a crossword as well in future newsletters. If you like this idea please let us know.

Comments Please : you all know the email address !

Danny.

Members' For Sale and Wanted

This page is for members to place items for Sale and Wanted adverts.

Please let us know if you have anything you would like on this page.

Email us at : - thanetastronomygroup@gmail.com

Or call Danny 01843 228904 or George 01843 292640