

# Thanet Astronomy Group

Astronomy for Everyone in Plain English

## NEWSLETTER

April 2017



*The Dragon Spacecraft - Credit : SpaceX*

*"We are excited to announce that SpaceX has been approached to fly two private citizens on a trip around the Moon late next year"*

PLANS PREPARED FOR PLANNING AND  
BUILDING REGULATION APPROVALS

**MARTIN FOAD**  
Architectural Technologist  
16, The Paddocks, Herne Bay, Kent, CT6 6QX.  
(01227) 37 35 37  
Email: martin.mpfoad@hotmail.com

EXTENSIONS  
NEW BUILD  
LOFT CONVERSIONS



Chartered Institute of  
Architectural Technologists

PLEASE CONTACT US FOR A NO OBLIGATION FREE QUOTATION

This space is available for promoting members' businesses. You can place an advert here for a donation to the group.

## Contents

Cover	1
Contents	2
Executive Committee Messages	3
Advertisement (Steve Mcquaide)	4
About the cover picture	5
About the cover picture	6
Thanet Astronomy Group Contact Details	7
Members' Meeting Dates and Times	8
Advertisement (West Bay Cafe)	9
What we did last month	10
What we did last month	11
Advertisement (Renaissance Glass)	12
Book Review	13
What's in the sky this month	14
What's in the sky this month	15
Members' Page	16
Did You Know ?	17
Junior Astronomers' Club (JAC & Gill)	18
Adult Word Search	19
Junior Word Search	20
Members' For Sale and Wanted	21
Index to 2014 Newsletters	22

## Executive Committee Messages

April 2017

The month of April will start with :-

**April 1<sup>st</sup> Will start the Saturday meetings.**

**April 5<sup>th</sup> Will be the AGM meeting.**

Notices :

AGM will be in April this year to allow the Beginners Guide to Stargazing Course members access to the sixth part of their course without a week's break between parts 5 and 6.

April 29<sup>th</sup> 2017

The Committee would like to wish Steve and Tracy all the very best on their wedding day and every future happiness.

**Please Note that the members' meetings from May to September 2017 inclusive will start at 8pm because the cafe will be cooking till 7pm on sunny days.**

**We will revert to 7:30 for October.**

Danny, George, Gill.

Advertisement

# Start your own Business for Just £100



**Call Steve Mcquaide on Free Phone 0800 093 2452**

**Business Partner's with British PLC**

**Team Leaders Required**

**Free Training Benefits**



**Holiday Promotions**

**Subsidised BMW Mini**

**Increasing Monthly Income**

**Call Steve Mcquaide on Free Phone 0800 093 2452**

## About the Cover Picture



*The Dragon Spacecraft - Credit : SpaceX*

Many of you may not have heard of SpaceX or its owner Elon Musk so I will start with a little of his history, and believe me it's impressive !!!

Elon was born 28 June 1971 in Pretoria, South Africa but is now a US citizen. He has degrees in Physics and Economics.

With \$100 million from the sale of some of his companies, in 2002 Elon founded Space Exploration Technologies (SpaceX) to fulfil his long term goal of creating a “true space faring civilization”.

SpaceX has recently been scoring several “firsts”...

### **December 2010**

The Dragon Spacecraft was the first privately developed spacecraft to re-enter from low-Earth Orbit.

### **May 2012**

The Dragon Spacecraft was the first privately developed spacecraft to visit the ISS

See Video <http://www.bbc.co.uk/news/world-us-canada-18210502>

### **October 2013**

The Grasshopper rocket completes its half mile flight, hover, and landing.

(a rocket that can hover and land back on the launch pad)!!!

See video <https://www.youtube.com/watch?v=9ZDkItO-0a4>

### **December 2013**

Falcon 9 rocket reaches geosynchronous transfer orbit

### **September 2014**

SpaceX awarded \$2.6B Commercial Crew Contract by NASA

### **December 2015**

Falcon 9 rocket delivered 11 communications satellites to orbit, then the first-stage of the rocket returned to earth landing at Landing Zone 1. The first-ever orbital class rocket landing !!!

See video <https://www.youtube.com/watch?v=CDXEJMvEl8o>

### **April 2016**

Falcon 9 rocket launched the Dragon Spacecraft to the International Space Station, and the first-stage returned and landed on the "Of Course I Still Love You" dronship.

See video <https://www.youtube.com/watch?v=KsppGGseBow>

## About the Cover Picture

From Wikipedia :- Elon Musk is “the founder, CEO, and CTO of [SpaceX](#); co-founder, CEO, and product architect of [Tesla, Inc.](#); co-founder and chairman of [SolarCity](#); co-chairman of [OpenAI](#); co-founder of [Zip2](#); and founder of X.com, which merged with [Confinity](#) and took the name [PayPal](#).”

He has an estimated net worth of \$13.9 billion, making him the 80th wealthiest person in the world.

### **You can see that this man means what he says !!!**

On 27 February 2017 SpaceX announced that they have been approached to fly two private citizens on a trip around the Moon late next year.

The “around the moon” flight will use the new Falcon Heavy rocket. The first test flight is scheduled for this summer. The Falcon Heavy has more than twice the thrust of the next largest rocket available today.

The Falcon Heavy is in very basic terms 3 Falcon 9 cores

See <http://www.spacex.com/falcon-heavy>

This rocket can lift the equivalent of a 737 jet plane with crew, fuel, passengers and luggage!

This is twice the capability of its nearest rival and it can do this at one third of the cost !!!



*Falcon Heavy*

Tests, later this year as part of the NASA Commercial Crew Programme, will include a Dragon 2 un-manned launch to the ISS and a second manned launch to the ISS in early 2018. SpaceX is contracted to 4 launches a year, 3 of which will carry cargo and 1 carrying crew.

By also flying privately crewed missions (which NASA are encouraging) the costs to the government reduces and flight reliability data is gained.

Once the NASA Commercial Crew Programme is under way SpaceX will launch the private “around the moon mission”.

The moon mission will use the same launch pad as the Apollo moon missions at the Kennedy Space Centre. This will be the first time in 45 years that man has left Earth's Orbit.

SpaceX say “...the Dragon Spacecraft already has a long flight heritage. These missions will build upon that heritage, extending it to deep space mission operations, an important milestone as we work towards our ultimate goal of transporting humans to Mars”.

See Video <http://www.spacex.com/mars>

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	TBA	

**Members' Meeting Dates and Times**  
**Thanet Astronomy Group**  
**Members' Meetings**

**Dates and Times**

**2017**

4<sup>th</sup> January 2017 at 7:30pm

1<sup>st</sup> February 2017 at 7:30pm

1<sup>st</sup> March 2017 at 7:30pm

5<sup>th</sup> April 2017 at 7:30pm

---

**3<sup>rd</sup> May 2017 at 8pm**

---

7<sup>th</sup> June 2017 at 8pm

5<sup>th</sup> July 2017 at 8pm

2<sup>nd</sup> August 2017 at 8pm

---

**\*\*\* 6<sup>th</sup> September 2017 at 8pm \*\*\***

**\*\*\* Anniversary Four Years at West Bay Cafe Party \*\*\***

---

4<sup>th</sup> October 2017 at 7:30pm

1<sup>st</sup> November 2017 at 7:30pm

---

**\*\*\* 6<sup>th</sup> December 2017 at 7:30 for 8:00pm \*\*\***

**\*\*\* Christmas Stargazing Quiz and Buffet \*\*\***

---

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.

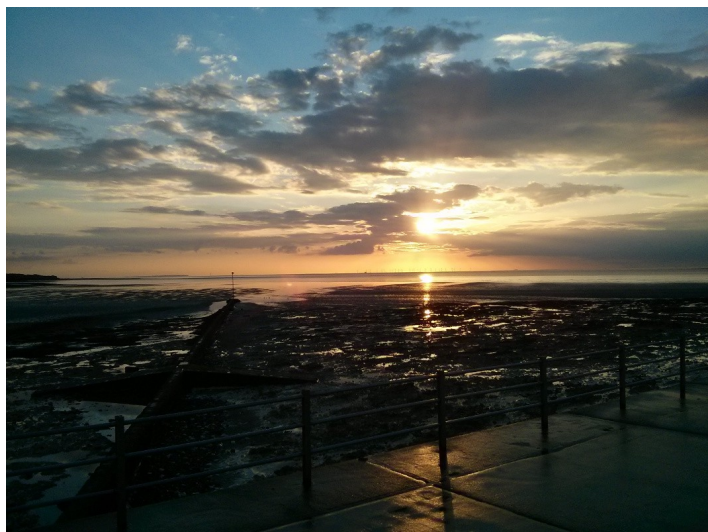
West Bay Cafe run by Alan and Kate has a very friendly atmosphere.



*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 last month

### March 2017

#### Wednesday 1<sup>st</sup> March Members' Meeting

This members' meeting was the second of the combined Stargazing Course and members' meetings.

We had planned to invite the course members to 2 of the main astronomy group members' meetings that took place during their course. This was to help them in a more relaxed and practical way with the material that they were trying to understand.

We split into two groups :-

Group 1 with Gill, George W and George C

Gill helped her group to make a simple quadrant to measure the altitude angle of objects in the sky. The Georges helped the group to use the quadrants to measure angles and find or identify objects in the sky.

Group 2 with Danny

Danny was referring back to the Celestial Sphere and the dreaded Ra. Dec. and using Stellarium to show how to use a standard telescope mount to easily follow moving objects in the sky without a motor drive. This practical demonstration turned out to be the missing link to the course and group members truly understanding Ra. Dec.

After the mid-evening tea break the groups swapped over and we did it all again.

#### Saturday 4<sup>th</sup> March Public Outreach Meeting

Today was a dull but mild day. We had loads of people interested in why we were there.

Unfortunately there were no sun spots to show them and there was a haze obscuring most of our usual targets out at sea. But we did have the Moon to look at and this is what everyone was amazed to see, especially during the day!

So many questions as to why and how the moon could be there in the day were asked.

At JAC & Gill, Gill was teaching (9) children, about the planets and the circumpolar constellations.



*The Moon*

## What we did last month

### March 2017

#### **Saturday 11<sup>th</sup> March** Public Outreach Meeting

At last - a sunny and warm day, and so many people. Holding our outreach meetings at the West Bay Cafe is the best move we ever made! There was a steady stream of people coming to ask questions and have a look through the telescopes.

Every few weeks we find a few people that are really interested and want to learn more. We will invite anyone with an interest in astronomy to our meetings, so they can find out for themselves what our group is all about.

Most of the afternoon was spent answering questions and showing people what we could see with the telescopes.

At the JAC & Gill club there were more than the usual number of children. So we decided to take them on our “Solar System Walk” This teaches the children just how big the distances are between the planets in our Solar System. It's a walk not to be missed!

#### **Saturday 18<sup>th</sup> March** Public Outreach Meeting

Today was dull cold and windy, so a quiet day for us. We still had a crowd of people keeping warm in the cafe discussing astronomy over tea, coffee and cakes, while a few brave people stayed outside with the telescopes for a while.

The JAC & Gill Club was quiet as well with only 5 children, (9 months - 5 years) playing with the Solar System beanbag planets, learning about the planets and the order which they are arranged, without the children realising that they were learning at all.

#### **Saturday 25<sup>th</sup> March** Public Outreach Meeting

Today was sunny but windy, quite a stream of interested people asking questions about the group, telescopes and why we were there.

At the JAC & Gill Club there were 4 children (2 – 8 years), one of the boys was especially fascinated with the meteorite that Gill brings along some days.



*Gill's Meteorite - Credit Pictures Dave Coopen*

Danny.

# Renaissance Glass

**WE SURPASS YOUR  
NEEDS FOR GLASS  
GLASS FOR ALL USES**

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



Supply Only &  
Fitting Service  
available

## **TRADE AND RETAIL**

**Long established family business**

**Tel : (01843) 227242 Fax : (01843) 291386**

**Email : [renaissanceglass@btconnect.com](mailto:renaissanceglass@btconnect.com)**

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

## Book Review

# Outer Space

**Take a fascinating journey through the universe**

Published by Parragon Books Ltd.

This is an 80 page book about space and what is out there.

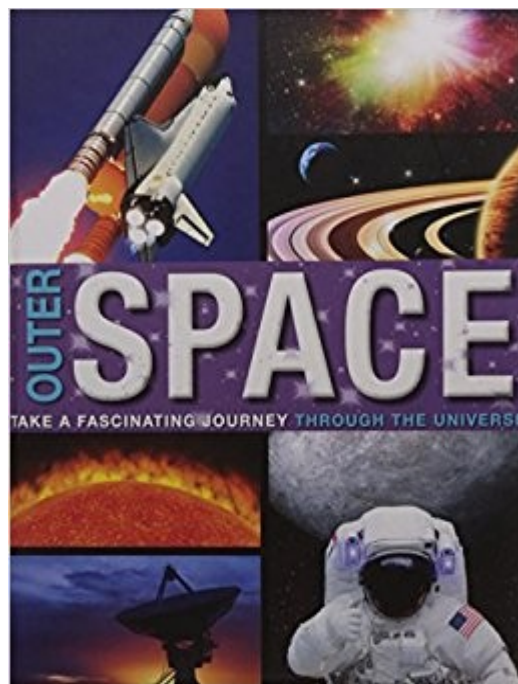
The book starts from the very beginning and covers an astounding amount of subjects between then and the end!

It covers all the main stages of the creation of the universe from time zero to now (13.7 billion years later).

There are short sections on stars (covering their birth to their death), nebulae and supernova containing many interesting facts.

We then move on to our galaxy, the Milky Way, our Solar System and our star, the Sun, followed by all the planets, and - yes Pluto is also included :-)

Then some of the smaller Solar System objects get their turn with sections on asteroids, meteors and comets. This is followed by our Moon, how it controls the tides and how eclipses work.



*Outer Space*

Having dealt with the not so small subject of the universe from start to finish the book takes a turn and starts dealing with how we are observing and exploring our Solar System and beyond.

It starts with the very first steps into space with the first-ever artificial satellite, covering such milestones as Sputnik, Explorer and the space race to the moon, including manned landings on the moon.

There is information on NASA and other space agencies, such as ESA, CSA, RFS and JAXA. This is followed by a section on the Paranal Observatory, the most advanced observatory in the world.

The last section of this book is packed with information on rockets, the Space Shuttle, satellite orbits, space probes, the International Space Station, the Hubble Space Telescope, the Voyager Missions and space debris.

There is also an index to help you find your way around all this amazing information.

***There is a copy of this book in the members' library.***

### **Members' Library:-**

There is a list of many of the available books on our website at :-

<http://www.thanetastronomygroup.com/library.html>

Danny.

## What's in the sky this month ?

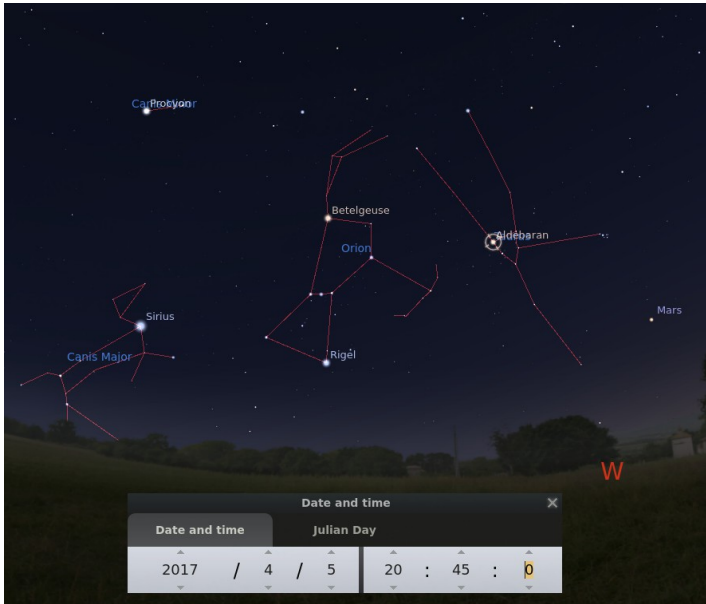
April 2017

**Constellations** (Orion, Canis Major, Canis Minor, Taurus, Leo, Bootes, Virgo, Lyra)

**Stars** (Betelgeuse, Sirius, Procyon, Aldebaran, Arcturus, Izar, Spica,)

**Planet** (Jupiter, Mars)

### What we are losing in the West in April ?



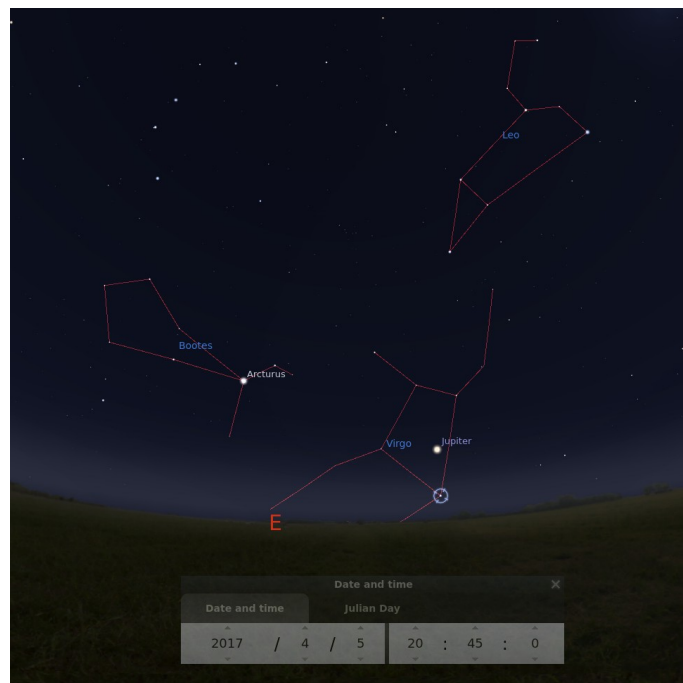
April is the time when Orion, the Hunter gradually slips away into the western horizon taking with it the winter triangle stars, Betelgeuse (in Orion), Sirius (in Canis Major) and Procyon (in Canis Minor) and also Taurus the Bull with its alpha star, Aldebaran. The loss of the constellations on the western horizon is accelerated by the later sunsets as we approach the ever longer summer days. Note : Mars is also visible almost directly above west in the picture on the left.

### Setting constellations in the west

The constellations that are setting in the west, are replaced with the new constellations that are rising in the east, the constellations of Leo the Lion and Bootes the Herdsman.

Bootes' alpha star is Arcturus, which is Greek for “Bear Guard” or “The Watcher of the Bear”, due to Bootes' close proximity to the bears, Ursa Major and Ursa Minor.

Arcturus is an orange giant star, 36 light years from Earth (and has a diameter of 35 million kms), about 26 times the size of our Sun. It has a slow rotational period (its day) of 2 Earth years.

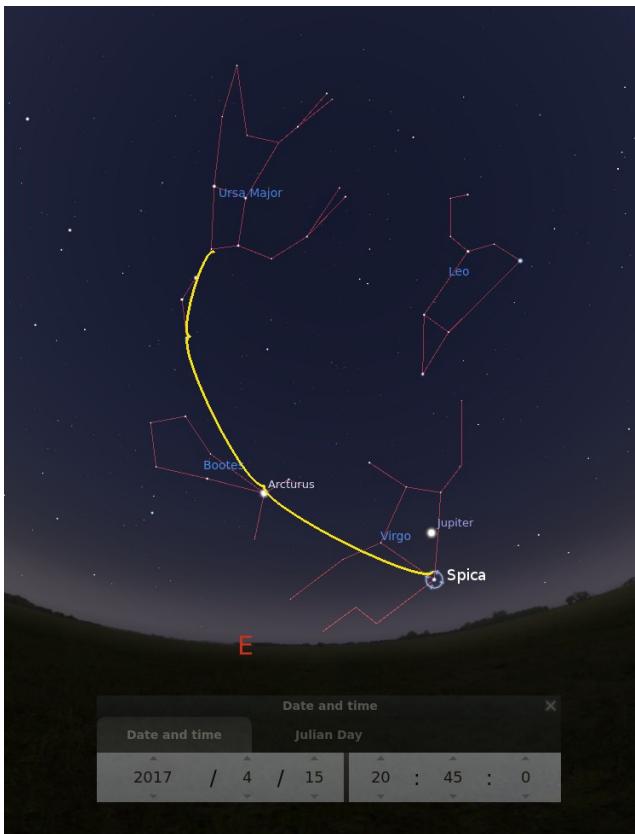


### Rising constellations in the east

Also of interest in Bootes, just to the left of Arcturus, is the star Izar, a double star, one orange the other blue, similar to that of Alberio in Cygnus.

## What's in the sky this month ?

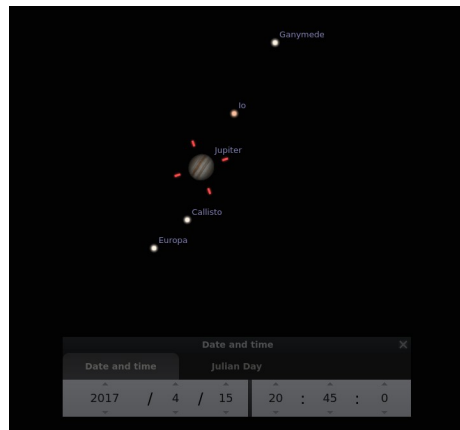
April 2017



*Finding Virgo and Spica by drawing a curve from the handle of the Plough through Arcturus and on to Spica*

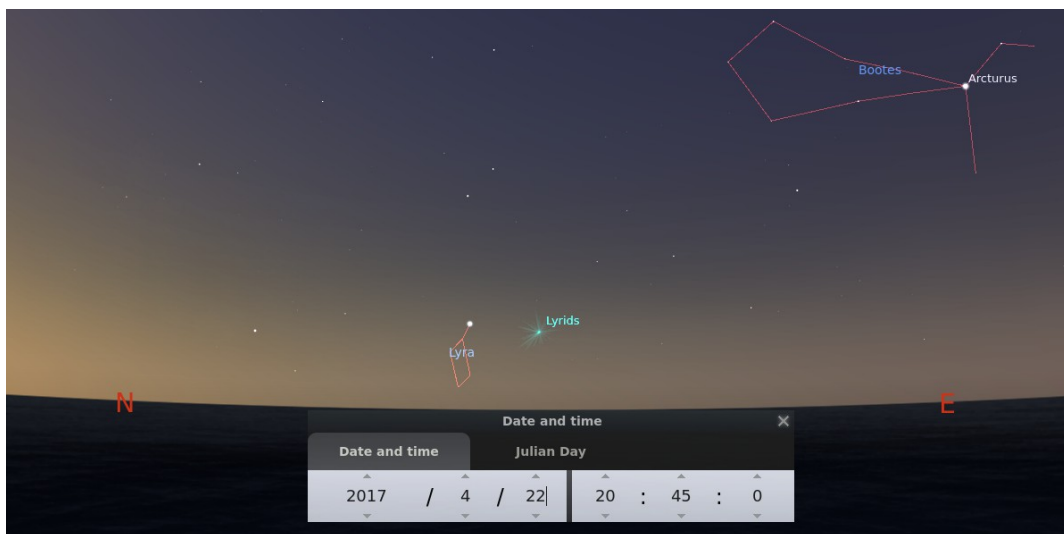
To find our next constellation and its alpha star we need to draw an imaginary arc (shown in yellow to the left) from the handle of the Plough, through to Arcturus, and continue on until you come to the bright star of Spica. This is the alpha star of the constellation of Virgo.

At the moment the very bright object above Spica is the planet Jupiter.



*Close up of Jupiter and the Galilean Moons*

Each year between 16<sup>th</sup> and 25<sup>th</sup> of April the Lyrid meteor shower appears, peaking between 22<sup>nd</sup> and 23<sup>rd</sup> April. The Lyrids were created by the comet, Thatcher, which at some point in history crossed our orbital path and left behind a huge amount of debris which we pass through at this time every year. Comet Thatcher has an orbital period of 415 years. The shower takes its name from the constellation Lyra, the point from which the shooting stars (meteor shower) appear to emerge.



George W / Danny.

*Radiant point for the Lyrid meteor shower peak 22<sup>nd</sup> / 23<sup>rd</sup> April*

## Members' Page

### The RadioJove Project:

“Radio JOVE students and amateur scientists observe and analyse natural radio emissions on Jupiter, the Sun and our galaxy” <https://radiojove.gsfc.nasa.gov/>

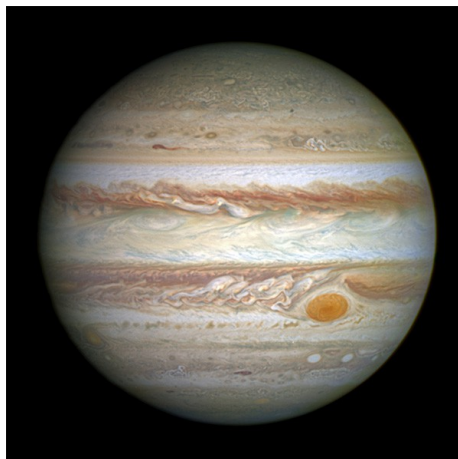
At a recent Thanet Astronomy Group members monthly meeting (2016); it was proposed and agreed that the Chair (Danny Day) could and should purchase the RJ 1.1 Radio Telescope kit. This would enable Group members and, if possible, the general public at our outreach Saturday afternoons and other outreach sessions to listen in.



*The RJ 1.1 Receiver*

As Thanet Astronomy Group has a wealth of experience within the amateur radio field (we have four members who are ‘hams’) this will enable the Group to operate this; utilising their experience with antennas. To begin with we could listen for solar radio noise bursts from the Sun, which are stronger than Jupiter ones; for this we would need a 10ft single dipole antenna. This is very good for Saturday afternoons as the best time to listen is for a few hours either side of noon.

Also it would be relatively easy to erect the required dipole antenna as this is generally a straight pole (it is a bit more complex than that but this is in simple terms). However, solar radio noise bursts are not predictable; often occurring when there are visible sun spots. Solar conditions can be checked at the space weather website. [www.spaceweather.com](http://www.spaceweather.com) so we would be able to plan when to use the equipment.



To listen to Jupiter is slightly more complex; two dipole antennas are required, the height of which depends on latitude. Jupiter noise storms are generally more predictable. To make things easier, there is a ‘prediction information’ section of the RadioJove website and there is also a programme called Radio Jupiter Pro which we can access; this programme predicts when Jupiter storms are most likely to occur and provides guidance for the optimum antenna configuration. This would be a very useful tool when planning our monthly meetings etc. especially since the radio signals are best heard at night from a few hours after sunset until sunrise. This is because the Earth’s ionosphere is the clearest during this time.

*Jupiter picture taken by the Hubble Space Telescope*

*Credit :NASA, ESA, and A.Simon*

This is a very exciting project and will introduce to our members, and at our outreach sessions, amateur radio, which we are hoping more members will take an interest in and become ‘hams’. As a side note, although anyone can listen to radio transmissions in order to transmit – you do need to have a licence which is awarded after taking exams. We are hoping to run classes and exams for members wishing to gain their licence, if they are interested.

Sheila Tomkins (Vice Chair and Membership Secretary)



## Did You Know ?

### Constellations

**Many people believe that a constellation is a collection of stars.**

**This is not the case !**

This confusion is not at all surprising due to the definition of constellation in many dictionaries.

For example :-

- 1). For astronomers - this one completely misses the spot

[www.dictionary.com/browse/constellation](http://www.dictionary.com/browse/constellation)

*“constellation definition. An easily recognized group of stars that appear to be located close together in the sky and that form a picture if lines connecting them are imagined. Constellations are usually named after an animal, a character from mythology, or a common object. (See Big Dipper, Ursa Major, and Ursa Minor.)”*

- 2). This one gets there but it's a bit confusing

<https://www.merriam-webster.com/dictionary/constellation>

*“Definition of constellation. 1 : the configuration of stars especially at one's birth. 2 : any of 88 arbitrary configurations of stars or an area of the celestial sphere covering one of these configurations the constellation Orion.”*

- 3). **Nailed it !** Also gives links to Celestial Sphere and the IAU to backup the definition

<https://en.wikipedia.org/wiki/Constellation>

*“A **constellation** is formally defined as a region of the celestial sphere, with boundaries laid down by the International Astronomical Union (IAU). The constellation areas mostly had their origins in Western-traditional patterns of stars from which the constellations take their names.”*

**Constellations** are officially designated areas in the sky,

whereas :-

**Asterisms** are a recognisable collection of stars, either within a constellation or crossing into other constellations.

- 4). Wikipedia on Asterisms – a very clear definition

[https://en.wikipedia.org/wiki/Asterism\\_\(astronomy\)](https://en.wikipedia.org/wiki/Asterism_(astronomy))

*“In astronomy, an **asterism** is any pattern of stars recognized in the Earth's night sky. It may be part of an official constellation or it may be composed of stars from more than one constellation. Asterisms are composed of stars which, although visible in the same general area of the sky as viewed from Earth, are located at very different distances from Earth, at great distances from each other. Many asterisms are simple shapes composed of a few bright stars, making them easy to identify, and particularly useful to people who are familiarizing themselves with the night sky.!”*

George W.

## Junior Astronomers' Club (JAC & Gill)

March 2017

If anyone has ever heard the phrase “As mad as a March Hare!” ...  
then think of me!

I'm the mad one who plays planet games with the children every Saturday afternoon and sings silly star songs to help them to learn more about Space!

March has been a particularly busy time for “JAC & Gill” with many new youngsters dropping in for meetings.



The busiest and best Saturday afternoon was the 4<sup>th</sup> March when both the sun and the moon came out to play with the nine juniors who came to join us on the prom.



The following Saturday (11<sup>th</sup> March) the weather started to get warmer and felt quite spring-like so we were able to do one of our Solar System walks along the prom.

The idea is to pace out the distances between planets to compare how far they are away from the sun and from each other. Each pace represents 1 million miles and we started from the centre of the Sun which we drew on the prom at the furthest point from the cafe. Here are the distances for

your information...

Mercury.....36 million miles

Venus.....67 million miles

Earth.....93 million miles

Mars.....142 million miles

Jupiter.....483 million miles

Saturn.....887 million miles

Uranus.....1,784 million miles

Neptune.....2,798 million miles



Unfortunately, even though we started right at the other end of West Bay, by the time we got back to the cafe we had only reached Saturn and ran out of time (and prom) to get to Neptune (which would probably have been all the way to Ramsgate if we had carried on!)

By the end of the walk I think the children had grasped the idea of how vast the distances are between each planet...the adults most definitely did and hoped that their little astronomers would sleep well that night!!!

Reach for the stars!

Gill Palmer.

**Adult Word Search**

<b>BETELGEUSE</b>	<b>CANISMAJOR</b>	<b>DRAGON</b>	<b>MARS</b>
<b>METEORITE</b>	<b>MISSION</b>	<b>MOON</b>	<b>ORION</b>
<b>PROCYON</b>	<b>RADIOJOVE</b>	<b>SPACEX</b>	<b>STARGAZING</b>

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

Danny.

## Junior Word Search

**DRAGON**

**JUPITER**

**MARS**

**METEORITE**

**MISSION**

**MOON**

**ORION**

**STARS**

**SUNSPOTS**

S F Q J S O R H O  
D R T Y U Y M R E  
M R A K N N O O M  
O G A M S N R R U  
K U E G P I W S T  
M E T E O R I T E  
D G I N T N I A S  
N O I S S I M R R  
J U P I T E R S 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](mailto:thanetastronomygroup@gmail.com)

Or call Danny 01843 228904 or George 01843 292640

# **Index to Thanet Astronomy Group Newsletters**

## **Newsletters 2014**

### **Issue 1 October 2014**

Cover	1
Contents (this page)	2
Cover Story (Open Star Cluster Pleiades)	3
What we did last month	6
Junior Members' Page (Remembering the Planets)	7
Book Review (Astronomy for dummies)	10
What's in the sky this month (Great Square of Pegasus, Andromeda)	11
Members' Page (Happy One Year at West Bay Cafe)	12
Telescope Review (Carl Zeiss Telementor 2 Refractor)	13
JAC & Gill (Shooting Stars Evening)	14
Executive Committee Messages	15
Members' For Sale and Wanted	16

### **Issue 2 November 2014**

Cover	1
Contents (this page)	2
Cover Story (M42 the Orion Nebula)	3
Contact Details	4
Members' Meeting Dates and Times	5
What we did last month	6
Junior Members' Page (The Summer Triangle)	7
Advertisement	8
Advertisement	9
Book Review (The Sky at Night, Patrick Moore and Dr Chris North)	10
What's in the sky this month (Uranus, Neptune and Pleiades)	11
Members' Page (Lin and Ian)	12
Telescope Review (Sky Watcher 150P EQ3-2 mount)	13
Junior Astronomers Club (Ramsgate 8 <sup>th</sup> Brownies and All Thanet Beavers 80+ children)	14
Executive Committee Messages	15
Members' For Sale and Wanted	16

### **Issue 3 December 2014**

Cover	1
Contents (this page)	2
Cover Story (Cygnus the Swan)	3
Contact Details	4
Members' Meeting Dates and Times	5
What we did last month	6
Junior Members' Page (George's Celestron 114 telescope)	7
Thanet Astronomy Group Library	8
Thanet Astronomy Group Library	9
Book Review (Hubble the mirror on the universe )	10
What's in the sky this month (Polaris, Deneb, Errai, Alfirk Alderamin, Zeta Cephei, Iota Cephei Garnet Star, Cepheus, Geminids)	11
Members' Page (The Old Tartu Observatory Estonia)	12
Telescope Review (Sky-Watcher Explorer 130M)	13
Junior Astronomers Club (Maidstone Cubs)	14
Executive Committee Messages	15
Members' For Sale and Wanted	16

### **Issue 4 January 2015**

Cover	1
Contents (this page)	2
Cover Story (Dawn spacecraft at Vesta)	3
Contact Details	4
Members' Meeting Dates and Times	5
What we did last month	6
Junior Members' Page (George's Jr. helps at Cubs)	7
2015 Astronomy Calendar of useful Stargazing dates	9
Book Review (2015 Guide to the night sky)	10
What's in the sky this month <b>Constellation</b> (Orion) <b>Stars</b> (Betelgeuse, Bellatrix, Alnitak, Alnilam, Mintaka, Rigel, Saiph, Sirius, Procyon)	11
<b>Asterism</b> (The Winter Triangle)	11
Members' Page (Thanet Astronomy Group)	12
Telescope Review (Telescope Eyepieces)	13
Junior Astronomers Club (JAC & Gill get a logo)	14
Executive Committee Messages	15
Members' For Sale and Wanted	16