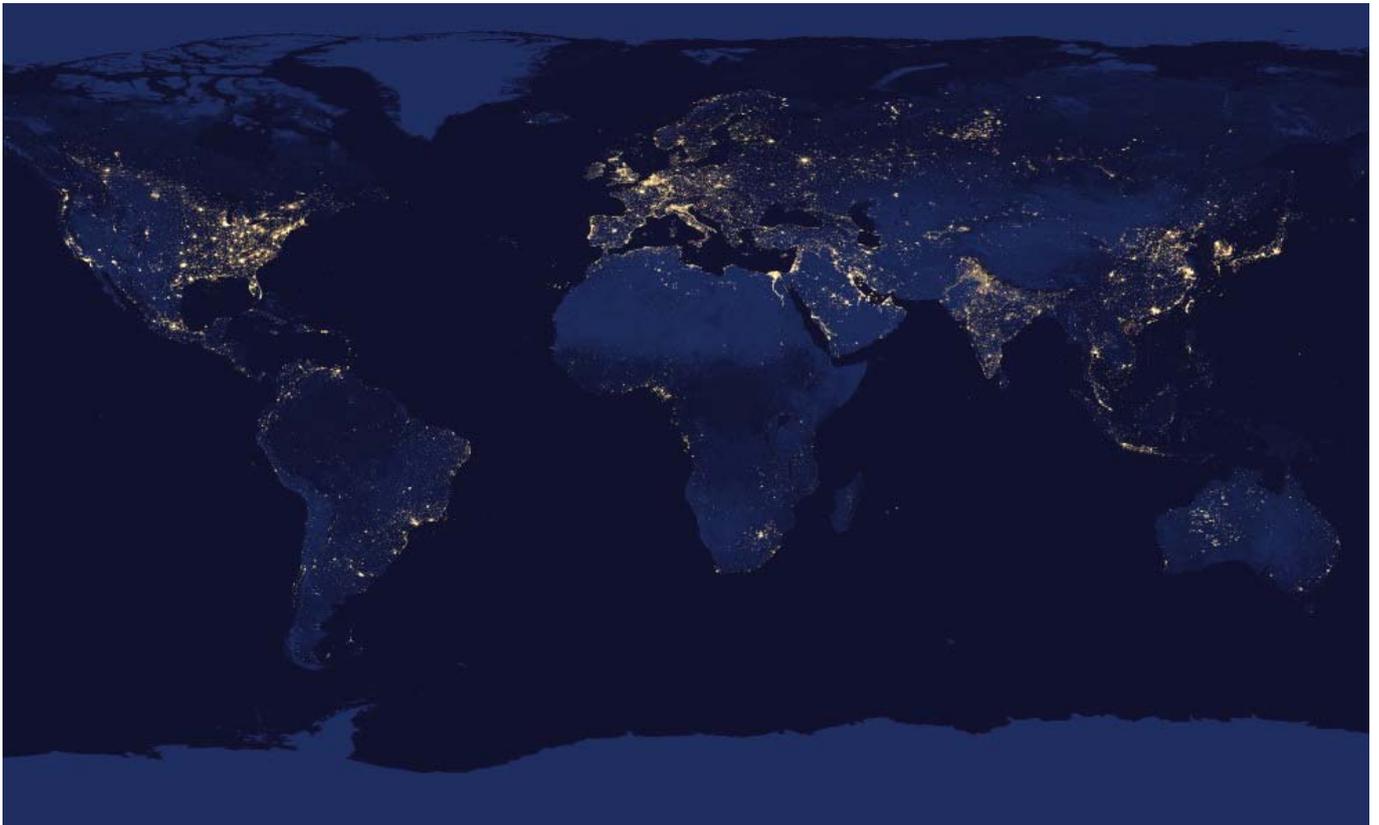


# 2002



**NEXT MEETING**  
**THURSDAY, 13<sup>th</sup> December 2012**  
**THE ASTRONOMICAL SOCIETY OF HARINGEY**  
**VOLUME 41 : ISSUE 2 : December 2012**  
[www.ashastro.co.uk](http://www.ashastro.co.uk)

# SOCIETY NEWS

## MEETING VENUE :

Ashmole School, Southgate, London N14 5RJ.

The day for meetings is usually the third Thursday of each month. The exceptions are August, when currently we do not hold a meeting, and December, when the Christmas Meet has always traditionally been held during the second week.

However, in case of changes – and there have been a few over the last year or so – it is always advisable to double-check the dates below.

**NOTE : the Meeting information is also on the new website: [www.ashastro.co.uk](http://www.ashastro.co.uk)  
Latest update December**

**Doors open - 7.30pm : Main speaker - 8.00pm : Finish - 10.00pm sharp!**

New or updated information is in *italics*

## 2012

**December 13<sup>th</sup> : OBSERVING SESSION**

*The Christmas Meet and Guiz VIII have reluctantly been cancelled, due to the lack of people being able to come along. Instead Chairman Jim will be running an impromptu observing session.*

## 2013

**January 10<sup>th</sup> : EXTRA MEETING – OBSERVING SESSION**

January 17<sup>th</sup>

February 21<sup>st</sup>

March 21<sup>st</sup>

April 18<sup>th</sup>

May 16<sup>th</sup>

June 20<sup>th</sup>

July 18<sup>th</sup>

August : summer break

September 19<sup>th</sup>

October 17<sup>th</sup> : AGM

November 21<sup>st</sup>

December 12<sup>th</sup> : Christmas Do – *possibly...*

### COVER :

This a complete view of the Earth made up from cloud-free, night-time images. These were collected during April and October 2012 by the Suomi-NPP satellite from polar orbit about 824 kilometres / 512 miles above the surface using its Visible Infrared Imaging Radiometer Suite. Easy to recognize here, city lights identify major population centres in many countries.

*Image: NASA; NOAA; NGDC; Suomi-NPP; Earth Observatory*

## SOCIETY NEWS



We meet in the Drama Room at Ashmole School, (previously the Curriculum Support Building - still noted as such in the map). This is the low building, (right), just past the Performing Arts Centre.



### **MEETING PREVIEW : December 13<sup>th</sup> : Jim Webb : "Observing Evening"**

As announced on the website, and via emails sent to those that can receive them, we have had to – reluctantly - cancel the planned Christmas Party and Quiz. Over the last few years these have not been well attended, which is odd, as if any meeting during the year could be guaranteed to bring out a good proportion of the Society membership, it was to be the Christmas Party! It is pointless making a lot of preparations that won't be used, so those on the email list were sent a question as to whether they would be attending on 13<sup>th</sup>. But as very few could make it, it has been decided to cancel the party and Quiz. However there *will* still be a meeting, and this is arguable more what the Society should be about, in that it will be an Observing Meeting, and it will work as follows:

Please meet at Ashmole School for around 7:30pm and then we will proceed to the observing site which will be either locally in Broomfield Park



or a bit further afield in Lee Valley Waterworks, (much darker skies there). Which we go to will depend on the weather and if conditions are totally against us, we can always retire to the Waggon pub for a virtual observing session. I will bring a laptop. Alister and I will bring telescopes and binoculars; if anyone else chooses to bring any instruments, please feel free to do

so. The Moon will be nearly New so the skies will be darkish – London permitting. And of course the 13<sup>th</sup> is the peak of the Geminids Meteor Shower. Note those that arrive by public transport – don't worry, other transport will be provided.

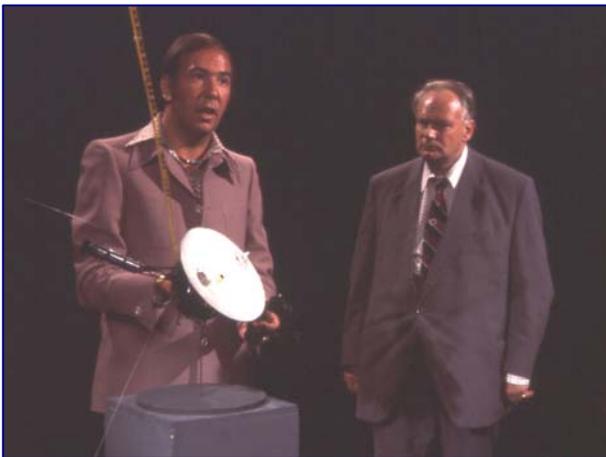
And that isn't all for it has also been decided to run an extra Observing Meeting on the second Thursday of January, ie the 10<sup>th</sup>. This is to coincide with BBC-2's Stargazing Live, which ends that day, having started on Tuesday 8<sup>th</sup> and running three days.

*Jim Webb - Chairman*

## MEETING REVIEW : November 15<sup>th</sup> : Mat Irvine : "The Sky at Night – In Miniature"

As those that attended the meeting know, this had to be changed due to unforeseen circumstances and we had to cancel the advertised talk by Bo Maxwell on "The Future of Mars". This will now take place sometime during 2013. Actually in some ways this is fortunate as Bo hopes far more details will be available of The Mars Society's plans for the New Year.

By chance your Editor had bought along his net-book, which included the talk originally prepared for the British Interplanetary Society's 'Patrick Picnic' held during the summer. The 'Patrick' is of course Sir Patrick Moore, and the idea of a 'picnic' in Patrick's garden started in 2011. This was very successful, so another was held this year. As your Editor had worked on The Sky at Night for many years; well 'for many years', some years ago now; he'd put together a PowerPoint Presentation of some of the work. This was shown at Patrick's Picnic, and had its second outing at this meeting.



I first worked on The Sky at Night in the early 1970s, providing models of the latest space projects. Mariner 9 was the first, but I also supplied Mariner 10; Giotto; Phobos; Hubble; Skylab; plus various Shuttles and Saturn Vs. However the most used were likely Viking - both Lander and Orbiter - and Voyager, as many programmes were made featuring these space probes. But by the mid-1980s the style of the programme had changed. More early-style computer graphics came in and many programmes were not studio-based. So there was a gap – of about 25 years - until the programme's 50<sup>th</sup> anniversary in 2007. For this I was asked to not only supply a selection of the models that had appeared all those years ago, but also to be recorded chatting with Patrick 'about the old days'. And actually since that programme there have been other instances of using models instead of CGI for the programme. So what goes around...

The above photos are around 30 years apart, but show the same three! Left Garry Hunt and Patrick, probably in 1977 (though may have been a few years later?) along with the Voyager model. Right Garry and Patrick at the 50<sup>th</sup> Anniversary of The Sky at Night, so 2007, with the same Voyager.

*Mat Irvine*

# CHAIRMAN'S QUARTERS



We take the Internet for granted. These days it allows us (or maybe, more correctly, it has given us the capability) to gather information at an astonishing rate – be it writing (articles), images, music, films etc (and even this magazine). A mere 20 years ago this would have been almost unthinkable (modems struggled at a mere 20 – 50 Kbits per second!), but the rate of data transfer technology progress has made typical transfer rates of 8-10Mbits per second routine. This is almost a thousand fold increase! So what happens to all that data being transferred – where does it go and where does it come from?

Firstly we need to visualize how much data is being transferred daily around the world. This is estimated at around 500 petabytes (500 billion billion bytes) per a day! A typical hard drive on a modern computer can hold 500Gbytes (500 billion bytes) of data. Of course, not all of this data is actually stored – it's moving from one place to another – but some of it does have to be stored somewhere. As an example, the data produced by the large telescopes around the world will fill up a dozen hard drives in one day. Much of it is kept locally but it also has to be shared so it has to go into public storage as well. So where is it? These places are called data centres. These are maintained by ISPs (Internet Service Providers) – those nice people who look after e-mails and websites, Search Engine providers (Bing, Yahoo, Google etc), the Cloud (upcoming data storage facilities by Microsoft, Apple etc) and a slew of privately, industrially and government owned facilities. All this represents millions and millions of hard drives that have to be running non-stop, day in day out. These require electricity to run and a computer processing backbone to 'make sense' of all the data and distribute it correctly. They also require cooling and space to house them. Many of these are very large, anonymous looking, often industrial estate-sized facilities with extensive air conditioning and large power lines going into them. They are littered around the world and very often near power generating stations.

So how much electricity do they actually need? Current estimates are in the excess of 800 billion kWh per year worldwide with the USA accounting for around 40% of the total. This represents around 5% of global electricity consumption (nearly 10% of total US consumption)! What is more, these figures do not include the millions of PCs around the world. This does not even include laptops, tablet devices and mobile phones. PCs are plugged into the wall and are continuously drawing power; mobile devices have batteries which have to be recharged – from the wall sockets, of course.

Not included in the list are televisions and mobile telephone network masts. TVs are slowly becoming larger and demanding more of the Internet. Likewise mobile network masts need to transmit a lot of power to keep up with the trend of ever increasing download rates onto mobile phones and tablet devices. Each bit of a streamed movie needs a tiny amount of power to send it – not a lot, but when you add it all up it becomes a large number. It takes a lot of power to send data to a wide area so that an individual can pick it up from some random spot. Energetically this is highly inefficient. As an interesting comparison, with TV the same transmission can be picked up by millions of people!

Have a wonderful Christmas and may the New Year bring you whatever it is that you desire or wish for.

See you observing and in January.

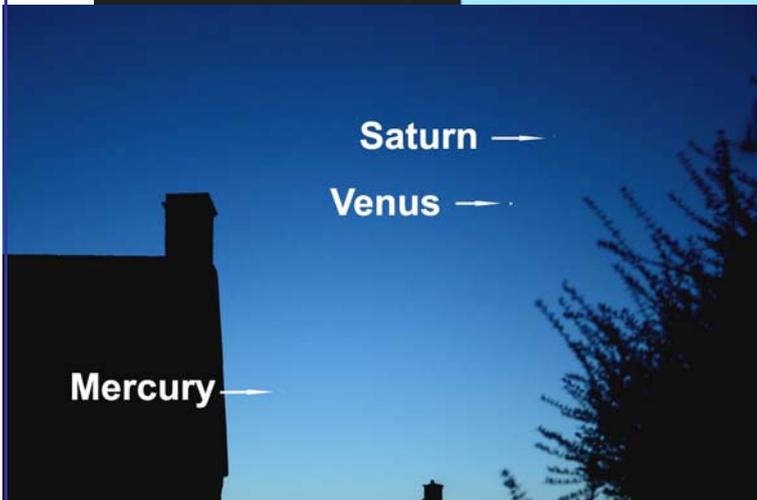
*Jim*



## Sky Views

Mat Irvine

The morning sky on 29<sup>th</sup> November, with three planets visible; though in two cases, only just. The notated version, left, shows the Mercury and Saturn positions.

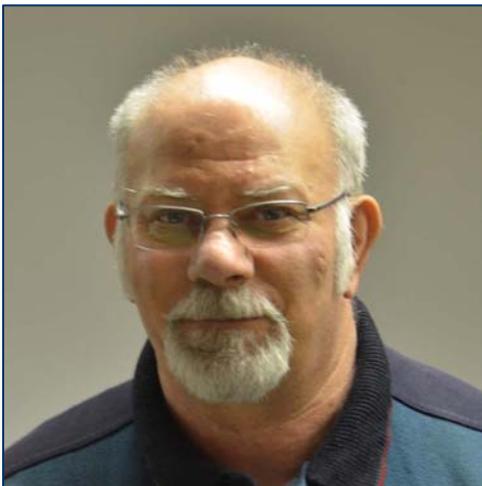


Above - the Moon with Jupiter, left the previous evening on 28<sup>th</sup>, right the morning of 29<sup>th</sup> - taken at the same time as the top picture.



Views of the conjunctions due on the 11/12<sup>th</sup> will totally depend on the skies. The 29<sup>th</sup> was clear - as the photos on the previous page show - but the following days, with snow and rain indicated this is by no way guaranteed, as the mornings were cloudy, although a bit warmer - well comparatively. What you need are cloudless nights - and this means it gets colder! Above is the evening of putting the magazine to bed, sunset (around 16.00hrs), on the 7<sup>th</sup>. This shows a clear sky, but indicates the promise of a cold night! But will this last all night and give clear skies in the morning? The next 12 hours will tell...

Apologies to our new Membership Secretary, Alister Innes, as the photo of him in the last issue, wasn't - him. This is though.



A belated obituary for Peter Hingley, 1951 - 2012. He was librarian for the RAS and had had spoken to the Society in previous years.



# THE NIGHT SKY : PLANETS

## December 2012 – January 2013

**MERCURY** : This appearance is the best viewing opportunity for all of this year, with the bonus of Venus and Saturn also being in the picture. Moon close on 12<sup>th</sup>, as a very thin crescent.

**VENUS** : Still brilliant in the morning skies, during dawn, so visible up until around 07.00. It is magnitude -4. Saturn and Mercury close by. The Moon close on 11<sup>th</sup> December.

**EARTH** : Winter Solstice 21<sup>st</sup> December

**MARS** : Faint in the west after sunset. The two-day old crescent Moon is close on 15<sup>th</sup> December.

**JUPITER** : Very prominent in the evening skies, brilliant around magnitude -2. Moon very close by on 25<sup>th</sup> December (see SKY MAP)

**SATURN** : In the morning skies, near to Venus.

**URANUS** : Moon close on 20<sup>th</sup> December

**NEPTUNE** : Moon close on 18<sup>th</sup> December

**PLUTO** : In conjunction with the Sun on 30<sup>th</sup> December.

### METEORS

The Geminids peaks on 13<sup>th</sup> December. Conveniently as it is the Observing Meeting, and as it's a New Moon, hopefully dark skies!

### COMETS

Comets never really seem to fulfil the promise of being, “the greatest comet ever – visible in daytime skies...” The last one to be really ‘generally visible’, or a ‘Great Comet’, was Hale-Bopp, and that was 1997. But such plaudits are being placed on one of the latest to be discovered, C/2012 S1 ISON, currently magnitude +18 and way out beyond the orbit of Jupiter. However in 2013 it will pass close to the Sun and Earth and may possibly become a Great Comet in late 2013, with a magnitude of 0 and above. Don't hold your breath though – comets are notoriously unreliable. (If you are wondering about why comets are named thus – the first part is the date and number in sequence of discovery, and the last part, ‘ISON’, after the ‘discoverer’ – in this case the International Scientific Optical Network.)

### THE MOON



New 13<sup>th</sup> Nov  
New 13<sup>th</sup> Dec

First Quarter 20<sup>th</sup>  
First Quarter 20<sup>th</sup>

Full 28<sup>th</sup>  
Full 28<sup>th</sup>

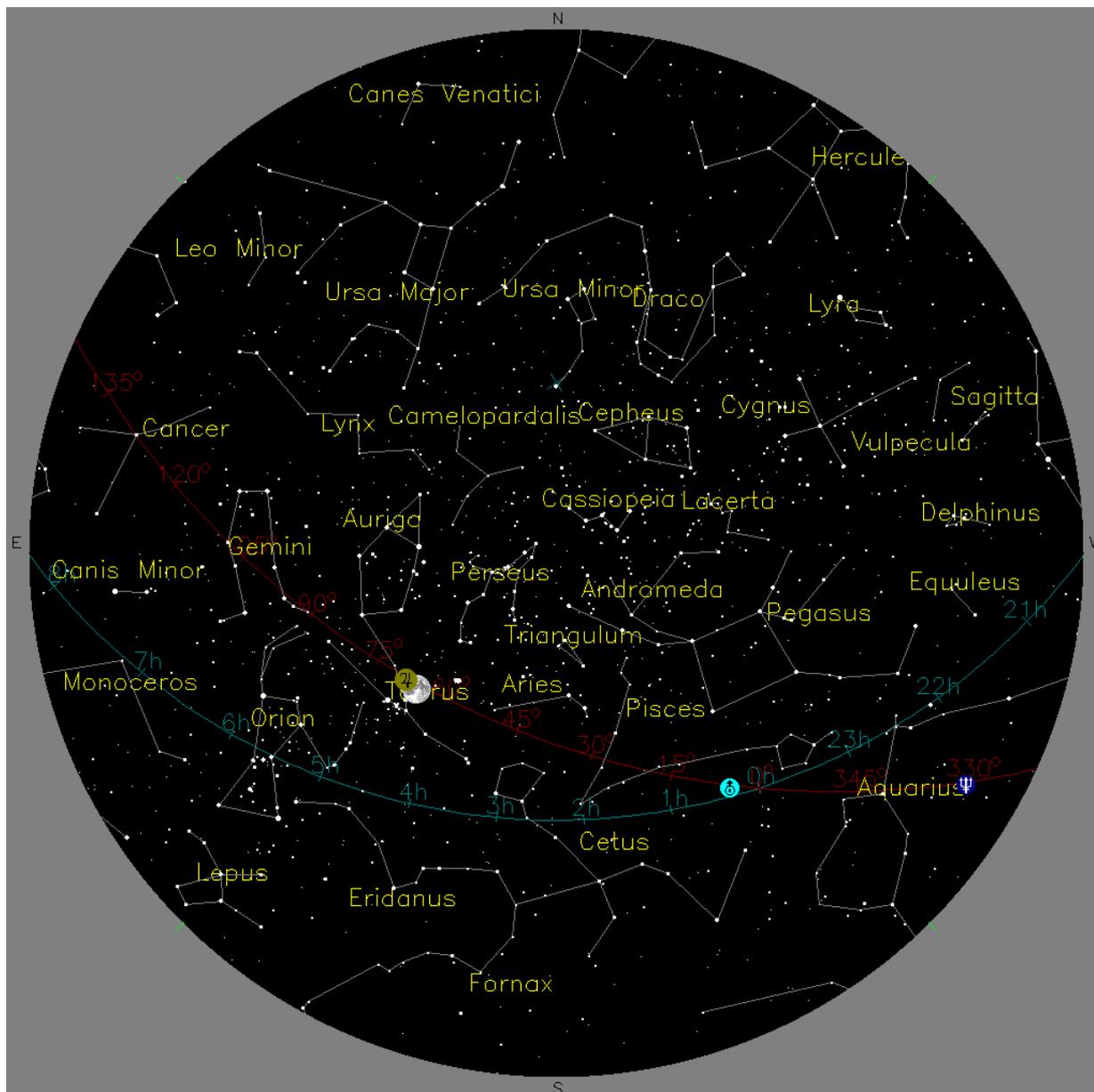
Last Quarter 6<sup>th</sup> Dec  
Last Quarter 3<sup>rd</sup> Jan 2013

New 13<sup>th</sup>  
New 10<sup>th</sup>

# THE NIGHT SKY : MAP

With the conjunction of the Moon and Jupiter on Christmas Day, this is the date of the map for this month.

25<sup>th</sup> December 2012, 20:00:00 GMT/ UTC



KEY	
 <b>MERCURY</b>	 <b>SATURN</b>
 <b>VENUS</b>	 <b>URANUS</b>
 <b>MARS</b>	 <b>NEPTUNE</b>
 <b>JUPITER</b>	 <b>PLUTO</b>



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## **ASH COMMITTEE MEMBERS : 2012 – 2013**

**CHAIRMAN** : Jim Webb

020.8441.7421 [chairman@ashastro.co.uk](mailto:chairman@ashastro.co.uk) [[www.glservices.org](http://www.glservices.org)]

**SECRETARY**: Charles Towler

01707.322686 [secretary@ashastro.co.uk](mailto:secretary@ashastro.co.uk)

**TREASURER** : Gordon Harding 020.8444.2229

**MEMBERSHIP SECRETARY**: Alister Innes 020.8803.2063

**EDITOR, P.R.O. and VICE-CHAIRMAN (and current WEBMASTER!)** : Mat Irvine

01908.510191 [editor@ashastro.co.uk](mailto:editor@ashastro.co.uk) [[www.smallspace.demon.co.uk](http://www.smallspace.demon.co.uk)]

**GENERAL MEMBER** : Mitchell Sandler 020.8958.4185

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Contact addresses :

**Chairman and general enquiries** : 136, Lancaster Road, East Barnet, Herts EN4 8AL

**Secretary and Membership** : 6 Parkway Close, Welwyn Garden City, Herts AL8 6HJ

**Treasurer** : 57 Tetherdown, London N10 1NH

**Editor and PRO** : The Forge Cottage, 20 Gold Street, Hanslope, Bucks MK19 7LU

### **NEXT MEETING**

**THURSDAY 13<sup>th</sup> December 2012**

**EXTRA MEETING THURSDAY 10<sup>th</sup> January 2013**

**THE NEW 'SITE - UNDER BETA TEST** : [www.ashastro.co.uk](http://www.ashastro.co.uk)

**Note** there are now 'ASH' email addresses – as above

**General enquiries** to <[info@ashastro.co.uk](mailto:info@ashastro.co.uk)>