

# 2002



**Professor Colin Pillinger  
1943 - 2014**

**NEXT MEETING  
THURSDAY, 15<sup>th</sup> May 2014  
THE ASTRONOMICAL SOCIETY OF HARINGEY  
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# SOCIETY NEWS

## MEETING VENUE

**Music Block, Ashmole School, Southgate, London N14 5RJ.**

The day for meetings is usually the third Thursday of each month. The exceptions are August, when we do not hold a meeting, and this now currently applies to the December Christmas Meet, though that may change back in the future?

However, in case of changes, it is always advisable to double-check the dates below.

## IMPORTANT

**Remember the change of meeting room.**

**See the next page**

For more on this, and general meeting information, also check the website:  
[www.ashastro.co.uk](http://www.ashastro.co.uk). Latest update May 2014

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

New or updated information is in *italics*

## 2014

**Below are the currently scheduled dates for this year.**

**Confirmation as to which meetings will be held are due to be announced after the next Committee Meeting.**

Most meetings will also end with a round-up of 'What to View in the Night Sky' for the following month. This is a continuation of what you get in the Night Sky pages here.

**May 15<sup>th</sup> : Mat Irvine : "Mat's Astro Tours – 2014" and a "Tribute to Colin Pillinger"**

June 19<sup>th</sup> : TBA

July 17<sup>th</sup> : TBA

August : Summer Break

September : 18<sup>th</sup> : TBA

October 16<sup>th</sup> : AGM

November 20<sup>th</sup> : TBA

December : Probably no meeting this month

### **COVER:**

*The UK's most endearing of space scientists, Colin Pillinger died suddenly on 8<sup>th</sup> May. He will long be remembered for heading the Beagle 2 project, which although failed in it's final Martian descent, left a legacy of many space engineering techniques to be used in future space probes.*

*The cover photo shows him at the 1998 Farnborough Air Show with an early mock-up of the Beagle 2 Lander*

*Photo : Mat Irvine*

## **SOCIETY NEWS** **MEETING ROOM**



We currently meet on the first floor of the Main Music Block. This is the two-storey building, next to our original room, the original Music Room. This is marked with the X in the photo on left, and although it is demolished, the site is currently being redeveloped with a new structure. The route in red is shown from the main gate of the School. We hope a first floor will be suitable for all, as there isn't a lift. If anyone feels they will have difficulty, please let the Chairman know. Contact details on back page.

### **MEETING PREVIEW : 15<sup>th</sup> May 2014** **Mat Irvine : "Mat's Astro Tours - 2014"**



Casting your minds back a few years, I tended to do my round-up of various, primarily, American visits, as my 'Mat's Astro Tours'. I haven't done these for a few years now, so time for a revisit.

If you ever visited Disneyland in California - though this would have to have been half a century ago - you may have seen the TWA Moonliner - the classic idea of what a space rocket should look like!

This is long gone, (though was recently replaced in smaller scale), but what is far less well-known that Missouri town of Kansas City, that sits on the border of that state and Kansas itself, has not one but two Moonliners! Exactly why this is so - and a close-up look at them - will form part of the talk.

Also included will be a revisit to Yerkes Observatory. This is part of the University of Chicago, though is not in Chicago's state, ie Illinois, but north, just over the state line in southern Wisconsin. This observatory houses the world largest refracting telescope with a 40" lens, and given that all large telescopes are now of the reflecting type, highly unlikely to loose this record.

There are also plans that a tribute to Colin Pillinger will also be included, especially as he visited and talked to the Society the month before Beagle 2 was due to land.



## MEETING REVIEW : 17<sup>th</sup> April 2014 Jerry Stone : "Is Pluto a Planet?"



In his first presentation of a new and highly entertaining talk, our regular speaker Jerry Stone gave his views on that on/off planet, Pluto. Although for most of the lives of any member of the Society – until *very* recently - the answer to, "How many planets in the Solar System?" would be "Nine", it of course hasn't always been the case. Before 1930 it would be "Eight", and before the 20<sup>th</sup> Century, the number would logically be dropping lower. But Jerry showed that in the early 1800s, after Uranus was discovered (1781), but before Neptune (1846) the recognised planets totalled 11, as four asteroid belt bodies; Ceres, Vesta, Juno and Pallas were included. These though were removed in 1845, so it's back to seven until the following year and Neptune made it eight! So a century and a half ago there is already confusion as to the precise numbers.

The modern 'problem' began when outer Solar System bodies started to be discovered, and one – Sedna – was larger than Pluto. So initially this made the planet number 10, but then more were found. The whole thing came to head at the 2006 IAF Conference in Prague, trying to decide exactly what defined 'a planet'? This is the event where Pluto found itself 'demoted', and the definition of 'a planet' was established. This ended up – though some maintain not accurately – that a planet must fulfil three basic premises: 1) It orbits a primary body (ie a star); 2) it is basically 'round' in shape – though that one is up for debate as one currently contended as 'a planet' definite isn't (round – *see right*), and 3) it must have 'cleared the path of its orbit'. The last is probably the most contentious as using this definition precisely Jerry showed that the Solar System only has three planets – Mercury, Saturn and Uranus. (Note, er, that the Earth is not included here...)



All these new contenders for 'planets' is definitely causing problems for one of Jerry's traits – that of producing a mnemonic for remembering the names, and order, of the planetary bodies. Gone now is the standard MVEMJSUN – with or without a final P, which could simply be remembered as, say, "My Very Educated Mother Just Showed Us Nine Planets", (there are many other versions...), and



has had to devise very tortuous new ones – such as the example on the right...

**Additional Dwarf Planets?**

Name	Diameter	Av. distance from Sun
Vesta	525	2.4
Orcus	917	39
Ixion	650	39.65
Huya	532	39.76
Salacia	921	41.97
Varuna	936	42.90
Quaoar	1,110	44
Sedna	995	519

Mercury Venus Earth Mars Vesta Ceres Jupiter Saturn Uranus  
 Neptune Pluto Orcus Ixion Huya Salacia Varuna Haumea  
 Quaoar Makemake Eris Sedna  
 My Very Epicurian Mother Visually Creates Jolly Salads Using  
 Nice Pickled Onions In Hoisin Sauce - Very Hot -  
 Quite Make Excellent Snacks

So where does this leave Pluto, which after all is the subject of the talk's title? Jerry's view is that even if it is classified as a 'dwarf planet' this doesn't stop it being a 'planet'.

After all, using his favourite comparison, the actor Kenny Baker (best known as Star Wars' R2-D2 - *left*) is a dwarf, but that doesn't stop him also being a human being.

As of Thursday 17 April 2014 there are:

- 10 objects which are nearly certainly dwarf planets,
- 25 objects which are highly likely to be dwarf planets,
- 47 objects which are likely to be dwarf planets,
- 82 objects which are probably dwarf planets, and
- 345 objects which are possibly dwarf planets.

**509 Grand total**

Mike Brown <http://www.gps.caltech.edu/~mbrown/dps.html>

So by using these overall definitions, admittedly in varying interpretations, it could mean that the Solar System does not feature about a dozen dwarf planets, but using figures postulated by Mike Brown of CalTech, it could be **509!**

This is best summed up in one of the screen images, which lists the 'possible' numbers – culminating in the 509 – and to that you still have to add the eight 'known' ones!

OK Jerry – we are waiting for the mnemonic for that lot!

An intriguing end to one of Jerry's best talks, and one that was reasonably well attended by the Society – keep it up!

*Mat Irvine*



# CHAIRMAN'S QUARTERS



Normally I don't use other people's articles or opinions, in total, but in this case I felt an exception is necessary. Artificial Intelligence (AI) has been a facet of computing which has concerned me for a long time so when Professor Stephen Hawking recently warned about the risks posed by machine superintelligence, saying that it could be the most significant thing to ever happen in human history - and possibly the last - I had to post his article.

"Looking further ahead, there are no fundamental limits to what can be achieved: there is no physical law precluding particles from being organised in ways that perform even more advanced computations than the arrangements of particles in human brains. An explosive transition is possible, although it might play out differently from in the movie: as Irving Good realised in 1965, machines with superhuman intelligence could repeatedly improve their design even further, triggering what Vernor Vinge called a "singularity" and Johnny Depp's movie character calls "transcendence".

One can imagine such technology outsmarting financial markets, out-inventing human researchers, out-manipulating human leaders, and developing weapons we cannot even understand. Whereas the short-term impact of AI depends on who controls it, the long-term impact depends on whether it can be controlled at all.

So, facing possible futures of incalculable benefits and risks, the experts are surely doing everything possible to ensure the best outcome, right? Wrong. If a superior alien civilisation sent us a message saying, "We'll arrive in a few decades," would we just reply, "OK, call us when you get here – we'll leave the lights on"? Probably not – but this is more or less what is happening with AI. Although we are facing potentially the best or worst thing to happen to humanity in history, little serious research is devoted to these issues outside non-profit institutes such as the Cambridge Centre for the Study of Existential Risk, the Future of Humanity Institute, the Machine Intelligence Research Institute, and the Future Life Institute. All of us should ask ourselves what we can do now to improve the chances of reaping the benefits and avoiding the risks.

Technology has reached the point where individuals cannot deal with the complexities of the machinery produced so the computer has become the tool to process all this. Because of the complexity of the programs used to analyse the data no-one really knows exactly what processing is occurring so the best possible grammatical structure has to be **assumed**. Because of this, unknowable variables can occur beyond our predictive abilities thus exposing the whole of technologically dependent humanity to potentially catastrophic circumstances. This is further highlighted by the formation of The Centre for Study of Existential Risk at Cambridge University. This is an interdisciplinary research centre focused on the study of human extinction-level risks that may emerge from technological advances. Their aim is to combine key insights from the best minds across disciplines to tackle the greatest challenge of the coming century; safely harnessing our rapidly-developing technological power.

May we never have to say to machines, "*For thine is the Kingdom, the Power and the Glory, for ever and ever, Amen!*"! Let that power be in the hands of Man.

See you in May.

*JIM*

# NEWS FROM INTERNATIONAL RESCUE



April saw the first **Andercon**, organised by Gerry Anderson's son, Jamie. Many reproductions of famous Anderson creations, both puppets and craft were on display, plus the original Model T Ford from The Secret Service



# THE NIGHT SKY : THE PLANETS

## May – June 2014

**MERCURY** : The best appearance of the innermost planet this year, especially from 16<sup>th</sup> to 28<sup>th</sup> of May. Then it will be around 15 degrees above the horizon. On 25<sup>th</sup> it is at greatest elongation east, setting up to two hours after sunset, at magnitude +0.4, but this will have faded to +1.2 by the end of the month. The crescent Moon below and to the east on 30<sup>th</sup> May, when Jupiter will be higher up, to the east.

**VENUS** : Rising just before sunrise, in the southern part of Pisces. Magnitude -4. In conjunction with the crescent Moon on 25<sup>th</sup> May.

**MARS** : Reached opposition on April 8<sup>th</sup> when the magnitude was -1.5, but now receding from the Earth and dimming from -1.2 to -0.5 magnitude. The Red Planet halts its retrograde motion across the sky on 21<sup>st</sup> May, and will remain near the star, Gamma Virginis, in Virgo. To the south of the Moon on 8<sup>th</sup> June

**JUPITER** : The giant planet continues to dim over the next month, fading from magnitude -2.0 to -1.9. By the end of May Jupiter will be around 20 degrees above the horizon at sunset, setting itself around 23.00hrs (BST) Jupiter is lying in the constellation Gemini and is now moving eastwards towards the 'twins' - Castor and Pollux. Moon to the south over 30<sup>th</sup> May/1<sup>st</sup> June

**SATURN** : The planet was at opposition on 10<sup>th</sup> May, rising just before sunset and setting just after sunrise. Moving slowly westwards in Libra towards the star Alpha Librae, at around magnitude +0.1. For those in the northern hemisphere, Saturn is now lying in the more southerly part of the ecliptic so, even when due south, does not get that high in the sky. This situation will not improve for the next few years. Moon to the south on 14<sup>th</sup> May.

**URANUS** : Venus to the south on 15<sup>th</sup> May, Moon to the north on 24<sup>th</sup> May.

**NEPTUNE** : Moon to the north on 22<sup>nd</sup> May.

## COMETS

We have another possibility of sighting a comet this month!

Comet C/2012 K1, Pan STARRS is passing below Ursa Major during May. Magnitude around 7 to 8, so faint, but the bright stars of the Plough should be good pointers.



## THE MOON



New 29<sup>th</sup> April  
New 28<sup>th</sup>

First 7<sup>th</sup> May  
First 5<sup>th</sup> June

Full 14<sup>th</sup>  
Full 13<sup>th</sup>

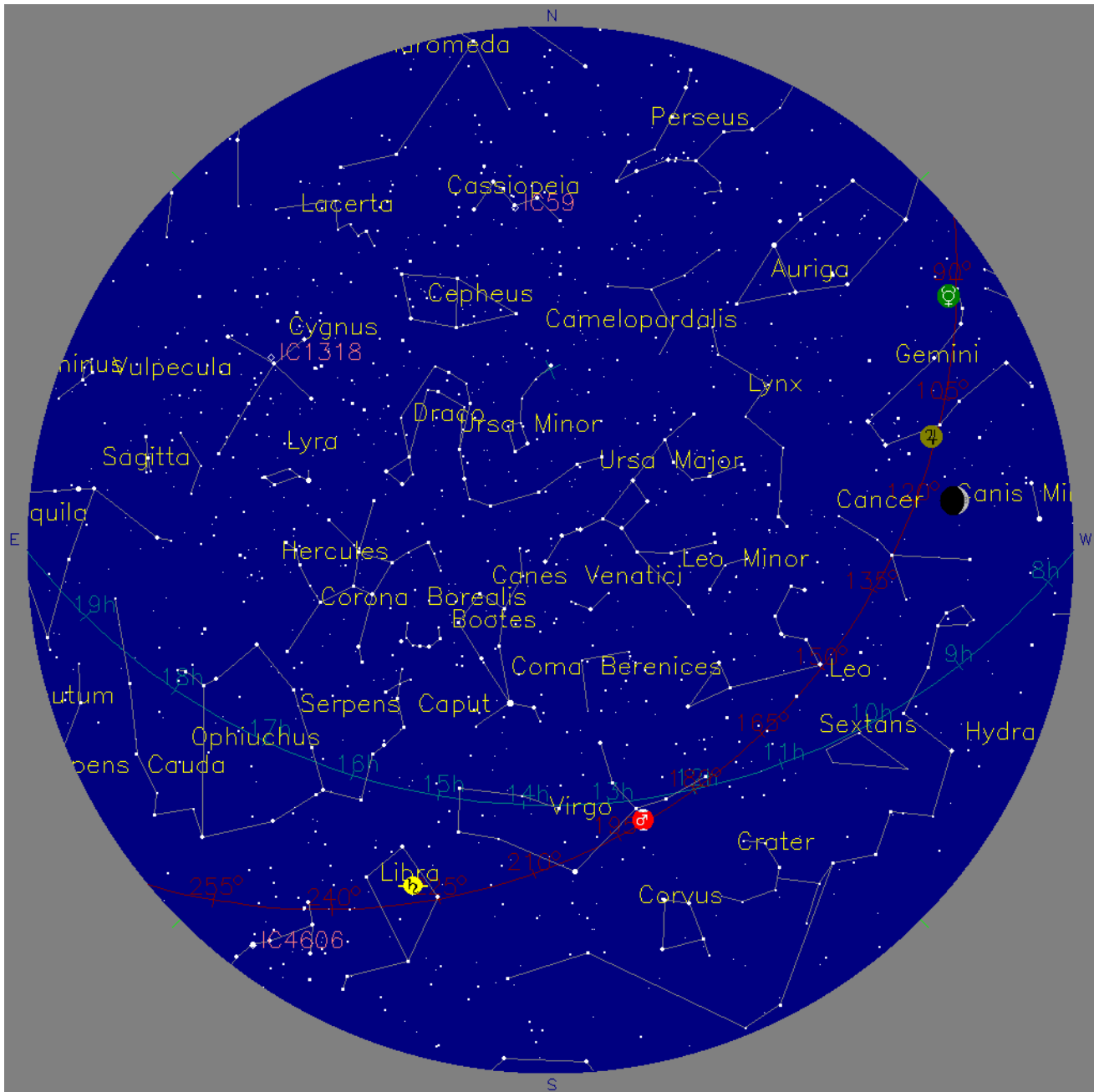
Last 21<sup>st</sup>  
Last 19<sup>th</sup>









New 28<sup>th</sup>  
New 27<sup>th</sup>



# THE NIGHT SKY : MAP

1<sup>st</sup> June 2014 : 22.00hrs BST / 21.000hrs GMT/ UTC



KEY	
 MERCURY	 SATURN
 VENUS	 URANUS
 MARS	 NEPTUNE
 JUPITER	 PLUTO



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