

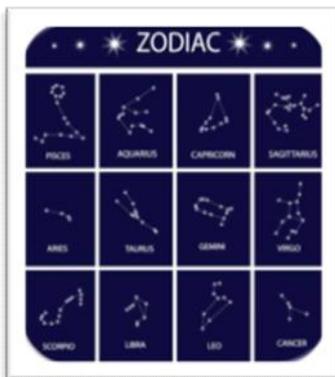
Issue: March 2016



>>> **Ayrshire Astronomical Society Newsletter**

Inside this Issue:

Meeting & News	Cover
Events	Pg 2
President Word	Pg 3
Alex Space	Pg 4
Isabelles Solar Corner	Pg 5
AAS Library	Pg 6



DONT MISS....

21st March 2015

Speaker: David Woods

Subject:

Thirteen out of Ten;

A Tribute to Neil Armstrong
and Apollo 11's landing on
the Moon

Next Meeting:

21st March 2016

Our speaker this month is **David Woods** who, as many of you will remember, is a great authority on all things regarding the NASA space programme and in particular the Apollo programme. This time he will be presenting another fascinating talk packed with interesting detail and facts entitled:

**Thirteen out of Ten
A tribute to Neil Armstrong and Apollo 11's landing
on the Moon**



David Woods

Doors open at 7pm as usual with activities commencing at
7:30 – don't be late!

Events :

Stargazing for Ayrshire Cubs Prestwick



In order to assist the cubs with gaining their astronomy badge, AAS was asked if we could give them a talk and show them some astronomical telescopes so, on Thursday the 18th February, our core Outreach Team delivered a short talk based on the cub's badge syllabus and we showed them several telescopes and astronomical gadgets. We were lucky that part way through the evening the sky cleared to reveal the Moon, so we used the 70mm Celestron (set up on the pavement) to let the cubs have a hands on observing session. The whole evening went well and we were pleased to be recognised from our event at Culzean last year. Even better was when each of the Outreach Team received a Cub badge to sew onto our clothing.

Bellsbank Primary School, Dalmellington Public Science Day



Following our outreach even at Bellsbank primary school last month, on the 12th of this month we returned to support the Kilmarnock Science and Engineering Society 2016 Outreach Program in a Public Science Day that was open to the whole community. The day ran from 10am until 4pm and the centre piece was the inflatable Planetarium from the SDSO. However our own display of telescopes and the science experiments by KESS also drew the crowds. The event was very well attended with a lot of interest in all the exhibits. It was particularly pleasing to be recognised by a number of pupils from Bellsbank Primary who had attended our classroom outreach last month. Thanks again to Alex Baillie and John Sharp for their tireless help and to Anthony Foote who also came along to provide much appreciated help.

Willow Bank Special Needs School Kilmarnock



Following on from our involvement with KES in their support of Willow Bank School last year, which was a resounding success with pupils and teachers, we were asked to return this month on the 14th, for a short science day. We were more than lucky in that it was a beautiful day of clear skies and bright sunshine and we were therefore able to put the Society solar scope into use. The moon was also visible allowing us to also have a telescope on that too. On the Sun we saw an amazing prominence that was so large and distinct that you could see the filaments within it. The children seemed to enjoy the day and the staff certainly enjoyed viewing the sun and the moon and, of course, Alex's spectroscope was a big hit as usual.

Upcoming Events:

23rd April 2016 Eglington Country Park, Irvine with RSPB

8th May 2016 Cars on Campus at St Josephs School Kilmarnock

9 May 2016 Public Event: Transit of Mercury

26 June 2016 Public Event: International Sun Day

TBC June 2016 "Celebrate Ayrshire" at Culzean Castle Country Park

Helpers will be very welcome at any of these events and no experience is necessary

please contact Graham if you can come along. president@ayrastrosociety.com

9 the May Public Event: Transit of Mercury – Help Needed!

We now have permission from South Ayrshire Council to use the Low Green for our proposed Transit of Mercury Public Outreach Event on the 9th of May. This event is being run by Isabelle Morris as leader of our Solar Group and she needs a number of helpers and kit to make the day a success. Some of the kit requirements are:

Solar scopes, wind shields (for fencing around equipment), a small tent (for storing scope cases and the like securely) chairs (for relaxing in the sun ☺) and most of all HELPERS.

Please contact Isabelle at the meeting or email her on solar@ayrastrosociety.com if you can help.

We are also looking at the potential for undertaking some pop up events as these seem to be a popular method of public outreach. The favourites would be solar events on a sunny day (of course) in a local park, supermarket car park or the like. Evening events could also work well. If you would like to suggest locations/ help / take part speak to any of the committee members (usual suspects).

Presidents' Word

Joint Meeting With KES, following the announcement last month of the first detection of Gravity Waves, KES (Kilmarnock Engineering and Science Society) is trying to arrange for Professor Martin Hendy from Glasgow University to deliver a talk on Gravity Waves and their Significance. Since this is a topic in which AAS has a great interest, it has been suggested that we have a joint meeting . This seems like a great idea so watch this space for further details.

An opportunity to display Astronomical Images, We have been asked if any of our members would like to display their astronomical images or artwork at the DOON Valley Museum over the summer (May to November). Details are still being finalised but this is a good opportunity to show your work, enrich the community and advertise the Society. A number of members have already expressed an interest so if you would like more details or just "join" please let me know. This again is associated with other displays via KES.

Doon Valley Observing Group, Dave Hancox tells me that the Doon Valley Group has hired the Roundhouse at Loch Doon for the Persied meteor shower later this year (August) . The intention is obviously a viewing session but also a social with food and drink available. It sound like a great opportunity for a social night out and maybe see the Persieds. Details will follow so watch this space and if you are interested let me (or Dave) know so that he can get an indication of numbers.

ExoMars Probe Launch,

On the 14th March ESA launched the first of its two its ExoMars missions from Baikonur, Kazakhstan aboard a Russian Proton rocket. A five year mission, this first stage it is comprised of two craft, the Trace Gas Orbiter and the Schiaparelli lander. The TGO will orbit Mars searching for traces of Methane on the basis that Methane is an indicator of past or present biological life. In October the Schiaparelli lander will separate from the TGO and land on the planet. Its primary mission is to demonstrate a new landing technology involving a crushable structure to absorb ground impact. The lander also carries a limited scientific package design to operate for a few days only. The second part of the ExoMars programme will follow in 2018 with the deployment of a rover vehicle capable of drilling beneath the Martian surface. Definitely a mission worth watching as it may prove the life on Mars question one way or the other.

Alex's Space

Shapely shadows and deep questions.....

What really is the shape of the Earth? That question has intrigued humans for thousands of years. The general view in ancient times was that the Earth was flat, as early as the sixth century the Greek philosopher Pythagoras ... remember his "theory " at school?reasoned that, since the Moon and the Sun are spherical, then the Earth must also be a sphere. Aristotle later agreed , explaining that the roundness of the Earth is proved by Lunar eclipses as the Earth's shadow on the Moon is curved, however, the notion of a flat earth (with only the upper side populated !!) did not disappear completely. Some could not accept the logical implications of a round Earth. Nevertheless, the concept of a spherical Earth prevailed and eventually it was widely accepted but, only with the dawn of the space age in the 20th century, has it been possible for humans to travel far enough into space to verify by direct observation that the Earth is indeed a globe, although, technically speaking, it is actually an ablated spheroid since it is slightly flattened at the poles – not many people know that interesting fact!!

In ancient times, humans were perplexed about the cosmos: what is the Earth sitting on? What holds up the Sun, Moon and stars? People in those days had no knowledge of the laws of universal gravitation. The idea that heavenly bodies are, in effect, suspended in an empty space upon nothing, was unknown to them, some suggested that tangible objects or substances held the Earth and other heavenly bodies aloft. For example one ancient theory, perhaps originating from people who lived on an island, was that the Earth was surrounded by water and that it floated in these waters! Yet others believed that the Earth rested upon a whirlwind and that this whirlwind was the cause of the motion of the heavenly bodies!!

With the invention of the telescope astronomers began to question these old theories, but still the right answer eluded them until Sir Isaac Newton explained that the planets are suspended in empty space held in their orbits by an invisible force --- gravity. The explanation seemed incredible, and some found it hard to believe that space could be a void, a planet just hanging in empty space was just beyond their comprehension. But, eventually, the penny dropped and everyone was happy – oh! by the way, the Flat Earth Society is still going strong!!

Isabelles' Solar Corner



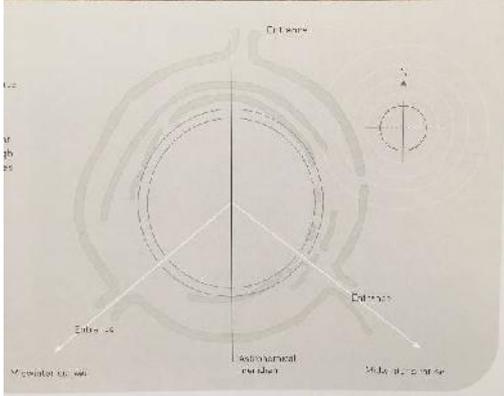
The oldest sun observatory

The human mind is astonishingly good at recognising patterns. Our imagination brings sense and order into a chaotic world. Such a thing happened to the archaeologist Otto Braasch in Saxony-Anhalt, Germany, in 1991.



Whilst participating on a survey flight, he recognised a discoloration on the ground and circular ridges and reported it to the authorities. They finally excavated the site between 2002 and 2004 revealing holes for the wooden posts that had once stood closely ranked in two concentric circles with gates in places aligned with sunrise and sunset on the solstice days.

It is claimed to be the oldest sun observatory yet discovered and dates back to 4900BC.



At dawn on the winter solstice, an observer at the centre of the circle could have gazed through the south eastern gap in the palisades and across the causeway to the point on the horizon where the sun rose. The function of the northern entrance remains a mystery.

The clear focus on the winter solstice may indicate a cult related to the symbolism of the sun's lowest point, the place from which things can only get better. As at Stonehenge, the ceremonies at Goseck may have incorporated an element of healing and perhaps fertility, as well as celebration of the year's turning. In 2005 the circles were reconstructed using some 2000 oak posts which are 2.5m high.



The site was opened to the public on 21st December 2005, the winter solstice.

AAS Library

Open for business!

THE LIBRARY IS A RESOURCE FOR MEMBERS -PLEASE SUPPORT IT AND MAKE USE OF IT

The Library list is also available on the website under “links” and can be downloaded



The AAS Library is building up a good stock of items but further items are still sought and books for younger Members would be welcome, as would copies of technical manuals and “instructables”. In addition if you have any DVDs, Videos, CDs and audio books, including podcasts (on tape or CD) these would also be welcome. Ownership arrangements remain as before; items can be donated to the library or simply lent to the library with ownership being retained.

If you would like to offer items for the library please speak to Alex at the next meeting or contact him by telephone on 01563 520887.

Similarly if you would like to obtain a list or borrow an item - catch him at the next meeting or give him a call on 01563 520887.

Unfortunately Alex does not have email, however messages via library@ayrastros.com will reach him the old fashioned way after a short delay but please contact him directly if at all possible.

Wanted: Newsletter Editor



Yes the Editor job is still available!!!

If you would like to get involved but not be too committed then why not just send in a short article? Offering do not have to be works of literary genius or even in finished form, those things can be worked – just send it in, every little helps!

newsletter@ayrastros.com