



>>> Ayrshire Astronomical Society Newsletter

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Next Meeting:

28th September 2015

How's the Space Weather Today?

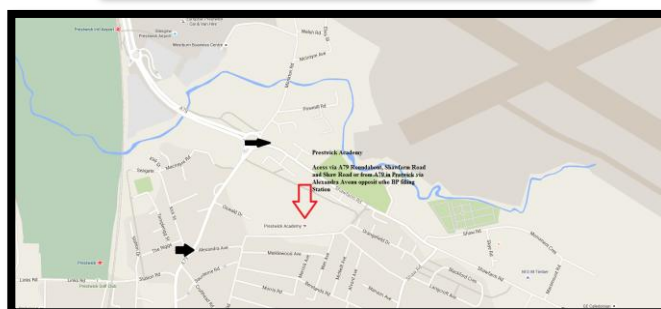
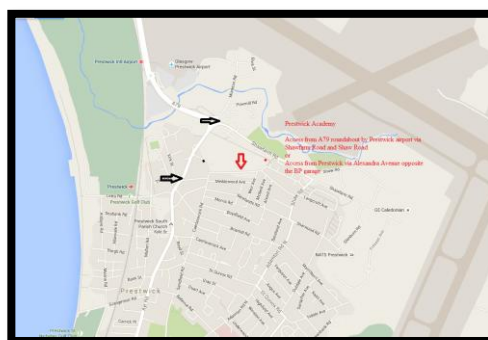
Speaker: Dr Iain Hannah

NEW MEETING VENUE FOR 2015 -2016

Please note that for the new session **COMMENCING 28TH OF SEPTEMBER 2015** all meetings will be held at the Prestwick Academy out by Prestwick Airport.

The Academy provides us with a large flexible room with easy disabled access and good facilities. There is plenty of car parking at the Academy and the Prestwick and Airport Railway Stations are within walking distance.

The first meeting will be at the usual time on Monday the 28th of September. Location maps can be found by following the links on the front page of the website and are included below.





President Word

Exoplanet Naming Process - UPDATE - PUBLIC VOTING

We recently received an email from the IAU (5 August) letting us know that the public voting will start on Tuesday Aug 11, 2015 at the ceremony held at the IAU General Assembly in Hawaii.

You may recall that earlier information indicated that the results of the competition would be announced at the aforementioned IAU General Assembly, so the whole programme has been extended and the final results will now be announced in November.

I contacted Steve McKenzie at the BBC and he published. The following article which again brings us to the fore in the local news, details of how and where to vote are included at the end of the article and you should get in there and vote as well as encouraging others to vote for our names.



Munro Schiehallion makes NameExoWorlds shortlist

By Steven McKenzie - BBC Scotland Highlands and Islands reporter

13 August 2015 Tayside and Central Scotland

Schiehallion's name means "fairy hill of the Scots"

A Perthshire peak could soon have a namesake in space after making the shortlist of an international competition to name distant planets. Schiehallion has been suggested by Ayrshire Astronomical Society as the new name for upsilon Andromedae d. The planet is in upsilon Andromedae, a system whose star is visible with the naked eye from Scotland.

The NameExoWorlds competition is being run by the International Astronomical Union. Rival names suggested for the planet include Kuromame, Luyanta, Svadilfare, La, Caroline, Murasaki and Iris. Some of the other names put forward are of astronomers or figures from mythology. Exo worlds are planets orbiting a distant star.



A Munro that rises to 3,547ft (1,083m), Schiehallion's name means "fairy hill of the Scots". It is said to be the centre of Scotland due to its position close to the latitude midway between the most northern and southern parts of mainland Scotland and longitude midway between the most western and eastern points. In 1774, Astronomer Royal Nevil Maskelyne conducted an experiment on Schiehallion to estimate the mass of the Earth. Astronomy clubs and non-profit organisations from 45 countries submitted 247 proposals for the names of 20 exo worlds.

Ayrshire Astronomical Society has submitted names for the star and three planets in upsilon Andromedae.

Moore has been suggested as the name for the star in honour of the late English astronomer and broadcaster Sir Patrick Moore.

Sagan - after American astronomer Carl Sagan - has been suggested for the planet upsilon Andromedae b.

The third planet, upsilon Andromedae c, should be named Clarke after legendary science fiction writer Sir Arthur C Clarke, according to the AAS members.

Online voting on all the names is open from today 13/08/2015 at: <http://nameexoworlds.iau.org> and will run until 31 October.

For details please see: <http://www.iau.org/news/pressreleases/detail/iau1511/>

Note that the clubs and/or non-profit organisations that successfully propose a winning ExoWorld name will receive a plaque and will be eligible to propose a name for a minor planet (subject to the usual rules for minor planet naming).

Please help us to spread the news to your community, and open their imagination of the universe. The announcement is expected to take place around mid-November.

The IAU expects to make an announcement on the results of the vote in mid-November.

Events Reminder

Paul Article

Summer is well underway - astronomy is all but forgotten (unless you are one of those strange folk who take pictures of clouds?) but don't worry darkness will soon be back and those glowing clouds will be forgotten! So what have I got planned for the new Astro season I hear you ask?



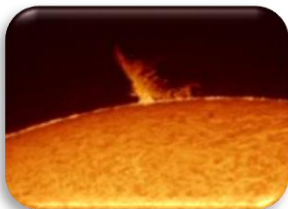
First up in September will be Starfarm@loudounhill hopefully the weather will play ball this year, the date we are looking at is Saturday 19th Sept-bring your tents for camping BBQ and some astronomy! Excellent wide open skies in a great remote location, good food/good company! Donation of just £5 covers food and camping.

Next adventure will be in October, date TBA , Bivvy night on summit of Carintable -2000ft high hill in the empty lands between Muirkirk and the Leadhills , great panoramic views - fresh water spring at summit - should be excellent for wide field DSLR, this adventure is free! But all participants must bring a homemade cake, Madeira or Dundee cake, Banana loaf, etc



Next Astro Adventure trip will be going to the legendary White Laggan bothy in November if we spot a window of good weather, the bothy is in the deepest darkest part of Galloway Forest, so the skies should be pretty good, the bothy is small, so there will be a 6 person limit on this trip, although if it works out well, I am sure we will go back! Don't forget the cake! So let's go and have some fun! If anyone is interesting in participating in any of these events, please contact Paul at: pjcayrshire@aol.com

Isabelle Article



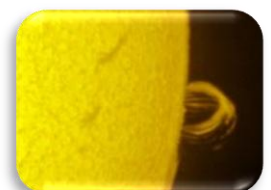
AAS Solar Group

Have you seen the sun lately? Me neither. But when the sun shows its face again, I will be ready to observe through the solar telescope all those wonderful sunspots, flares, prominences and other amazing features the sun has to offer.

I know there are many members who share the same interest, so I plan to form an AAS solar group which is dedicated to observing, studying and taking images. It is an activity you can pursue all year round without upsetting your sleeping rhythm. :-) I plan to get meetings organised where we can bring together and use our equipment, share experience and knowledge and at a later date, start organising events to bring this science to the wider public, schools and events.

With this project in mind, there will be a solar observing page added to the AAS Website together with an allocated email address for the solar observing group. As the group develops, I hope to create a separate, linked, website dedicated to solar astronomy.

If you are interested in joining the group as part of the AAS, any level of experience is welcome. Beginner or expert, tall or short, good baking skills or not, as long as you enjoy observing the sun, please send me an email to isagrogg@hotmail.com. This is still early stages but it will give me an idea of the group size and interest. I will certainly have more info together end of September.

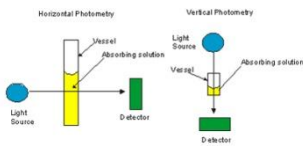


Isabelle (who has clearly not taken the picture below.....yet!)

Alex Article

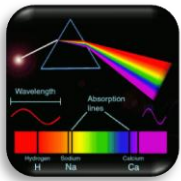
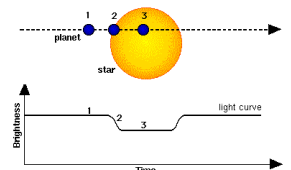
How do we know what we know?

How can astronomers tell how far away the stars are, how much mass they contain and so on? The answer has a lot to do with the equipment that researchers use, but important clues also come from the way in which many astronomical objects behave and interact. One of the most basic activities used by astronomers is to watch an object to see how its light levels change over time.



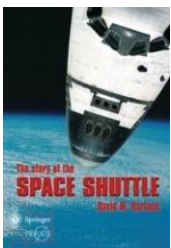
This science is known as Photometry, meaning measuring light: For example, think of an asteroid rotating in space, asteroids are irregularly shaped lumps of metal or rock smaller than a planet. An asteroid shaped like a spindle will look brighter seen from the side, than seen 'end on', so, merely by studying how the light from the asteroid changes over time, astronomers can tell how fast it rotates and from some idea of its shape.

Imagine a star that shows very slight changes in lightness over a period, this could be a sign that planets are orbiting the star because the light of the star would dip very slightly as the planet passes in front of the star. Some stars have spots on their surface, as the star spins, its brightness would vary depending on how many darken spotty regions are in view at any given moment. These very small changes in light levels can now be detected and measured, but as useful as it is, Photometry has its limits, a far more powerful technique is Spectroscopy. but I would say that . . . wouldn't !!!



In Spectroscopy light from an object is passed through a series of slits called a 'grating' or through an angle piece of glass called a 'prism'. This action 'splits' the light into a spectrum -- a band of colours ranging from red at one end to indigo at the other end. This spectrum can also have very fine bright vertical lines called Emission lines or fine dark vertical lines called Absorption lines. With the appropriate equipment astronomers can analyse these lines and glean useful information from them.

Juan Article

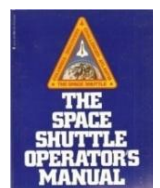


Hi everyone:

Like always I would like to share with you a couple of books I had the chance to read, thanks to our President, Graham, before he went on holidays:. I can say they were very interesting indeed. The first one is called "The Story of the Space Shuttle" this book is complete with the details of all the missions of the Shuttles and their cargos, plus the information of the ups and downs needed to make this fantastic machine work and get off the ground.

The pressure that was put on NASA to get this programme running by the USA Air Force and the many setbacks the Shuttle needed to get through was incredible, not to mention the loss of Challenger and Columbia. Space is a constant effort and challenge to Mankind and all the scarifies that we need to make, but the amount of things we achieved is impressive and we are not finish yet!

The second book "The Space Shuttle Operations Manual will give you a good look at all the instruments and apparatus that is inside this magnificent machine, plus let you to get involved in the experience of flying the Space Shuttle. This wonderful machine is so complex, that sometimes I wonder how NASA and all the companies that are working with them can make this possible and when you see all the technical drawings and systems, no wonder things can go wrong.



By the time you finish reading this complex book, you will be ready to take off and fly this wonderful machine, if only in a dream. I take my hat off to all the engineers, scientists and the assembly team for putting The Space Shuttle together and accomplishing so fantastic a spacecraft.

Space/Astronomy

"Out of this world expenses claim"



Buzz Aldrin has published his expenses claim for the Apollo 11 mission to the moon, revealing that he was reimbursed \$33.31 (£21.36) by NASA. A Travel Voucher Memorandum detailed in very matter-of-fact terms the "schedule of expenses and amounts claimed" for a work trip by employee Colonel Edwin E. Aldrin in July 1969. It showed that he had travelled on business from his home in Houston, Texas to the moon and back again.



According to the form Mr Aldrin used "Gov. Air" to get from Houston to Cape Kennedy. He then used "Gov. Spacecraft" to get from Cape Kennedy to "Moon". There was another return flight on "Gov. Spacecraft" and the destination was listed as "Pacific Ocean" where he and fellow astronauts Neil Armstrong and Michael Collins splashed down following their triumphant mission. Among other memorabilia he published 46 years after the landing was a customs form that he, Armstrong and Mr Collins had to sign on their return. It listed their flight number as "Apollo 11" and under the "Departure: Place and Country" section said simply "Moon". Their cargo was listed as "Moon rock and Moon dust".

Sky Dairy



September 1 - Neptune at Opposition. The blue giant planet will be at its closest approach to Earth and its face will be fully illuminated by the Sun. It will be brighter than any other time of the year and will be visible all night long. This is the best time to view and photograph Neptune. Due to its extreme distance from Earth, it will only appear as a tiny blue dot in all but the most powerful telescopes.



September 4 - Mercury at Greatest Eastern Elongation. The planet Mercury reaches greatest eastern elongation of 27 degrees from the Sun. This is the best time to view Mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet low in the western sky just after sunset.



September 13 - New Moon. The Moon will locate on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 06:41 UTC. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.



September 13 - Partial Solar Eclipse. A partial solar eclipse occurs when the Moon covers only a part of the Sun, sometimes resembling a bite taken out of a cookie. A partial solar eclipse can only be safely observed with a special solar filter or by looking at the Sun's reflection. The partial eclipse will only be visible in southern Africa, Madagascar, and Antarctica.



September 23 - September Equinox. The September equinox occurs at 08:21 UTC. The Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is also the first day of fall (autumnal equinox) in the Northern Hemisphere and the first day of spring (vernal equinox) in the Southern Hemisphere.



September 28 - Full Moon, Supermoon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This phase occurs at 02:50 UTC. This full moon was known by early Native American tribes as the Full Corn Moon because the corn is harvested around this time of year. This moon is also known as the Harvest Moon. The Harvest Moon is the full moon that occurs closest to the September equinox each year. This is also the second of three supermoons for 2015. The Moon will be at its closest approach to the Earth and may look slightly larger and brighter than usual. This will be the closest full moon of the year.



September 28 - Total Lunar Eclipse. A total lunar eclipse occurs when the Moon passes completely through the Earth's dark shadow, or umbra. During this type of eclipse, the Moon will gradually get darker and then take on a rusty or blood red colour. The eclipse will be visible throughout most of North and South America, Europe, Africa, and western Asia. ([NASA Map and Eclipse Information](#))

Graham Article

Photo Evening May AGM 2015

You will all recall the photo night that we held at the AGM when we had a good night of entertainment, with some cracking photographs and a lot of fun with the scoring. Thanks to everyone for taking part, both photographers, or should I say imagers, and scorers.

The basic idea of the evening was to get members at all levels of skill to show their astronomical photographs without any pressure to “compete” or “out do” each other so that we all had fun. The scoring was quite simple and we had basic categories of beginner through to expert. Although we had plenty of photographs to view it was a little disappointing that more beginners or general astronomy photographs were not offered. However, it was a first try for the idea and perhaps, if we run it again, there will be a wider spread of entrants.

Despite the “no competition ethos” a small incentive was added in that some prizes would be offered for the best photographs. Roger very kindly offered to print and frame the winning photograph and Derrick would provide unspecified other prizes via Society funds.

As it turned out we had essentially two classes of photograph: Beginner and Expert. In addition however, we had one entry based on real paper photographs. I thought that deserved a class of its own just to acknowledge the entry, as it was this type of entry, that and the compact camera snap type of images as well as the full blown digital category, that we were actually trying to encourage.

Anyway, once I had sorted out the exoplanet naming entry, I finally got around to compiling the photo scoring and came up with the following:

Overall winner based on most points was Dave Hancox with his Ring Nebula Image. This happened to be in the expert category against some stiff competition from Roger and Nick, although Roger had said he wasn't actually competing but just providing some image



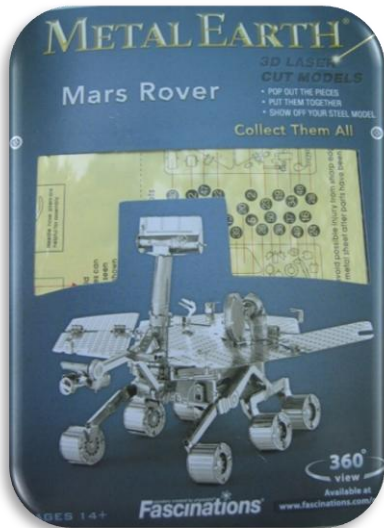
Juan Renau took the Beginner Category with his photo of the Orion Nebula taken at the last star camp.

Finally but not least Robert McCairn presented some real paper prints of Red Sky over Irvine to take the final place.

Sorry no Photo at this time.

So, thanks to everyone who brought photographs along, all the scorers and congratulations to the winners. We will sort the prizes out at the next meeting

Graham's Martian Rover Model Review

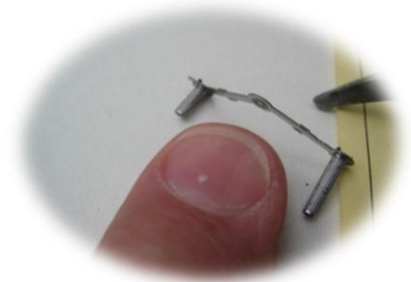


I spotted metal earth models some time ago but it was when visiting the technology museum in Stockholm that they really took my attention. The space programme models and, in particular, the Martian Rover and the Lunar Module. I was sorely tempted to buy, but the price was a bit high especially in Swedish krona so I hung back until I got home. Anyway, with birthday money burning a hole in my pocket, I found them on Amazon at a better price and bought the pair.

The idea was to build them whilst on holiday in France, so I put together what looked like an appropriate toolkit, mainly small snipe nosed pliers, a set of tweezers and a small pen knife ready to go.

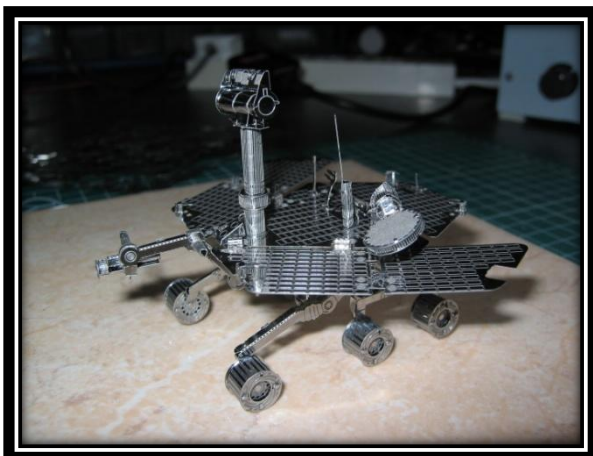
On opening the kits it became apparent how small and detailed they were, and that some of the parts were so small that you could hardly see them never mind work with them. Not to be deterred by such minor considerations I plunged into construction.

Three further things became immediately obvious, first in 35 degrees with sweat pouring off, dealing with small parts wasn't going to be easy, the slightest breeze threatened to distribute small parts (of which there are many) all over the campsite and anything dropped on the floor would likely be lost forever, third, bright sunlight and tiny shiny stainless steel parts don't mix. The project was therefore shelved until evening times when at least the sun glare had reduced and the temperature had dropped a little.



Once started, the knack of handling the small parts and bending sharp radii became second nature, although, for anyone challenged in the manual dexterity department, these models are a no go! The instructions are pictorial and there is a 3D video on the internet but even then you had to think carefully about where the part was going and what was next. As I got going it became compulsive, but after an hour or so I found that I needed to take a break due to the concentration required.

As the model progressed it began to look really good and the small engraved parts added to its appeal. As I approached completion, of course, one of the small parts snapped off and I thought that I had ruined the model. Being an Engineer by training and an avid model maker, super glue came to the rescue giving me a fully complete model. The super glue was also handy in firming up some of the twisted tabs that hadn't quite given a solid fit. So it all ended well.



The final Martian Rover is a lovely little model so the effort required to build it was well worth while, in fact it was very enjoyable after the first few parts. I am looking forward to building the lunar module - not least because it looks easier (how wrong could I be?).

To summarise these are very cleverly thought out models but the small pieces and shaping make them hard to build. They are certainly not for the clumsy or those with dexterity issues. Super glue and Magic Tape come in handy as would a large plastic sheet on the floor beneath the build area so catch those fine escaping parts.

AAS Library

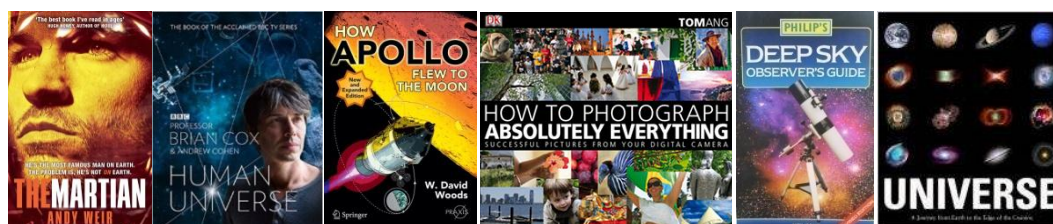
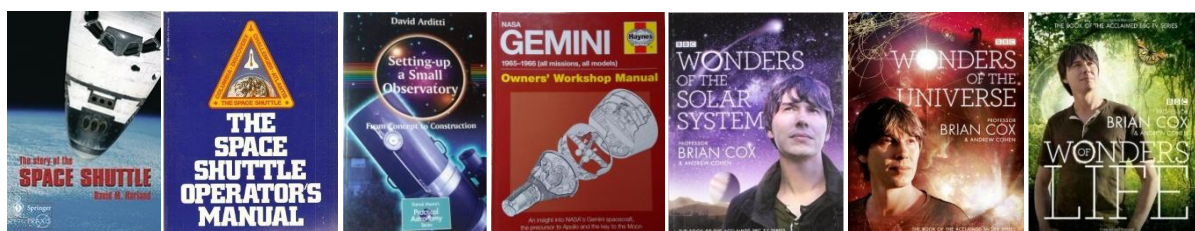
Dear Members:

Welcome to the new AAS Library, I hope you enjoy the variety of books our members kindly put for hire, so we can all have the opportunity to read something different and learn a bit more. Remember, it is only 50p per book; with this small contribution our Society can then buy new books that can help us with our hobby of Astronomy, Space and Astrophotography.

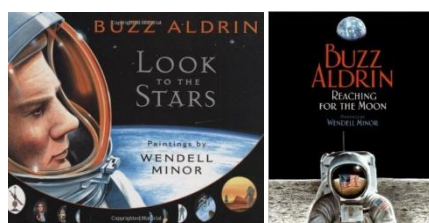
If any of you wish to put some of your books for hire, remember you always keep the ownership on your books, but you can help others to expand their knowledge and get a bit of enjoyment. If you do please send me a list of your books to library@ayraastro.com, a picture of the covers will be good, so I can get them from the internet and put them on our website, so people can see the cover of the book they will like to hire. To the ones without internet facilities we will have some hard copies to bring to our meetings and will try to update this list every month or so.

AAS Library book List:

Update on 17/08/2015



Booked



<<< (Children Books) >>>

I am sorry but "The Martin" is already booked by Allan, I will send you an email when becomes available again, thanks you.

Have your say in our Newsletter; send articles or letters to newsletter@ayraastro.com