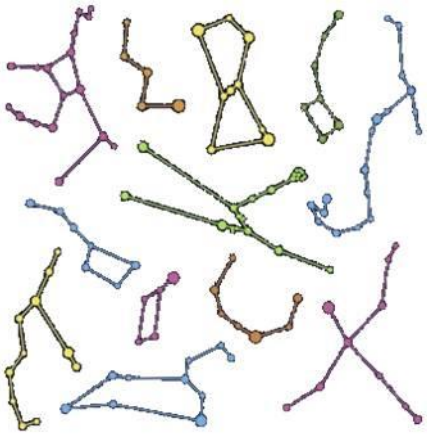
Issue: July 2015

>>> Ayrshire Astronomical Society Newsletter

Special Points of Interest:

Inside this Issue:



Next Meeting:

28th September 2015

How's the Space Weather Today? Dr Iain Hannah

Carers' Club Talk Ayr 24 June 2015

Graham and Alex gave a short talk on "Getting Started in Astronomy" to the Carers Club run by South Ayrshire Council in Ayr. The talk was well attended and a there was a lot of interest in the hobby and the telescopes that were on display.

Well known Kilmarnock "Astro Celebrity" at work

Apollo II Moon Landing 45th Anniversary

"One small step for man, one giant leap for mankind" That sentence, uttered by NASA astronaut Neil Armstrong from the surface of the moon 45 years ago, signalled the dawn of a new age.

This month marks the 45th anniversary of the epic Apollo 11 flight that landed the first humans on the moon and safely returned them to Earth. Armstrong, Buzz Aldrin and Michael Collins launched from Florida on July 16, 1969. Armstrong and Aldrin ventured out onto the lunar surface on July 20, 1969. The two men spent 21.5 hours on the moon before taking off from the lunar surface to meet up with Collins in the command module and fly back to Earth.

President Word

New Premises for the 2015 – 2016 Meetings

Whilst Loudoun Hall provides a larger meeting room, a nice kitchen area and is central in Ayr, it has a number of drawbacks in particular, access, parking and toilet facilities. We have therefore looked around and identified the Lifelong Learning Rooms at Prestwick Academy as a very nice potential location. We have applied to the Council to hire two of the rooms for the next session and are awaiting its response.

The rooms comprise of a single large room that splits into three using sliding room dividers giving a flexible space. There is also a sink and worktop with a hot water boiler and kettle. Access is all on one level, and there are ample toilet facilities across the corridor from the rooms. We have the option of chairs with or without some tables and the janitor will set these out for us. In addition there is ample parking in the academy grounds.

There is easy vehicle access to the Academy, although it is situated out of the centre of Ayr next to Prestwick airport. Once we have a confirmed hire a location plan will be posted on the website.




Photo Competition May 2015

Thanks to those who brought along their photographs and images to the members evening at the AGM in May. We had some nice shots that's for sure and I think that the viewing was enjoyed by all.

Whilst members were asked to score the images with a view to providing some prizes, I must confess that sorting out the scoring was not as straightforward as I had hoped, and therefore the task remains unfinished. I must apologise for my lack of attention to this item to date but assure you all that a solution will be available for our September meeting if not before

AAS Library Revival

It is some time since the Society operated a library and its revival has been discussed a number of times at committee meetings. Some of the issues associated with operating a library are; obtaining books; distribution to readers and; storage. Whilst not insurmountable, these issues were essentially the downfall of the original library system.

Discussion regarding re starting the library have centred on the idea that members themselves may have books that they are prepared to lend out, so still retaining ownership. Alternatively they may be willing to donate books that they have read to the library. Either would provide a supply of current reading. New purchases could be funded by a small lending charge of say 50p.

A list of available books could be held on the website, together with a hardcopy available for those without internet access, and loans could be arranged via a librarian who holds donated books and acts as an intermediary for members retained books. The librarian would also keep a record of book ownership and lending history and manage the lending charge. New books would be bought via the committee (an approval to purchase system) based on suggestions by members.

Taking a book could be arranged via email or telephone based around collection and return taking place at the monthly meeting of the Society. During summer a collector meet arrangement could be put in place. Juan has volunteered to act as librarian to give the above system a try and see how it works. He has offered several books to start the library together with some that I have available.

So thoughts on the proposal are sought so have your say! Several books are already available, if you have some books to offer contact Juan and lets' see how it goes. Juan may be contacted on library@ayrastro.com

Event Review

Celebrate Ayrshire at Culzean Castle 21 June 2015

Our last visit to Celebrate Ayrshire, held at Culzean Castle, was some two years ago and, having had a busy and enjoyable time at that event; we thought that this year the Society should go back.

We arrived at 10am to set up on what was a pleasant day from the weather point of view and found that we had a big pitch by the entrance and next to the bouncy castle. This gave us quite an advantage as we were on the main footfall route and, having lots of space, we could set up a lot of scopes. Juan brought his two gazebos and tables which provided a nice centre of operations (if you recall our own gazebo was destroyed by wind at the "Cars on the Campus" a couple of months back), and Alex, John, Robert, Isabelle, Adrian and Beverley all came along to help. It was great to have such a good turn out from AAS and we were rewarded by a lot of visitors.

We were lucky to avoid the rain, which seemed to be all around us, and get a couple of short spells of sunshine which allowed us to demonstrate the solar scopes. Without doubt the star attraction was the amazing Lundt solar scope brought by Isabelle. That gave us some stunning views of sunspots and flares and there were screams of anguish when the clouds drew in again! All in all it was a very enjoyable day and with at least one potential new member drawn into the fold. Thanks to everyone.

Naming Of Exoplanets

Thanks to those who turned up at the AGM which was quite a fun night and for taking part in the activities. With the help of John Sharp I sorted out the names for our expolanet submission and have submitted them today. I also sent an email to the BBC reporter who did the original article on us and asked him to do a follow up article which some of you may have seen! I also emailed out the following text but it seems that many, if any, did not receive it .....

Details of the submission, the system and the names plus the "justification text" are set out below ..

Ayrshire Astronomical Society 20 May 2015

Submission to the Naming of Exoplanets Competition via the IAU process

START OF SUBMISSION

Our submission is made by naming a system whose star is naked eye visible from Scotland where the Society is based, and seeks to recognise popularisers of science and astronomy which are objectives of the Society. It also includes a Scottish Mountain used in scientific experiment and also said the be "the centre of Scotland". The names were selected on an open vote of Members of the Society from a long list of names submitted by Members.

Star upsilon Andromedae in the constellation of the Chained Maiden. Visible from Scotland by naked eye and visibility magnitude 4.1

After Sir Patrick Alfred Caldwell-Moore CBE, FRS, FRAS, well known English amateur astronomer, educator, TV presenter, writer and personality. For his contribution to brig astronomy to the public.

Planet upsilon Andromedae b:

After Carl Edward Sagan the American, astronomer, cosmologist, astrophysicist, astrobiologist, author and science communicator. For his contributions to scientific research into extra terrestrial life and bringing science and astronomy to the public

Planet upsilon Andromedae d:

After the Scottish Mountain 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 westerly and easterly points. Also due to its use in 1774 in a ground breaking experiment coordinated by the Astronomer Royal, Nevil Maskelyne, to estimate the mass of the earth, from which Newton's Gravitation constant could be deduced.

Planet upsilon Andromedae c:

After Sir Arthur Charles Clarke CBE, FRAS, British Science fiction writer and author of 2001: A Space Odyssey. For his prominent work in the field of science fiction based on fact and intuitive prediction. He proposed the geostationary satellite communication system in 1945 many years before it became reality and discovered the underwater ruins of the Koneswaram temple in Trincomalee, Sri Lanka for which he was given Sri Lanka's highest award

END OF SUBMISSION

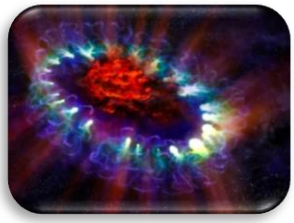
The next step should be the public voting but as yet I have had no notification of how this will be undertaken or precisely when it will take place although the announcement of the successful names is supposed to take place in August - we shall see

Alex Article

Our quiet neighbourhood!?

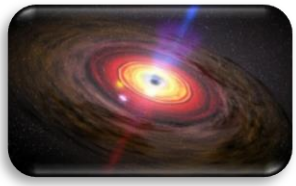
The sky above us can seem static and unchanging, but in reality, it's vibrant and active.

Objects collide, stars spew out millions of tons of material into space and energy radiates everywhere continuously.



Even apparently stable stars occasionally suffer dramatic changes, either due to them coming to the end of their lives because they have used up their nuclear fuel, or because something unusual happened near them. Large high mass stars can even explode violently in a cataclysmic event we call a supernova or "new star", but although the explosion of a supernova marks the death of a star, it is also its rebirth in another form . . . a Neutron Star.

This tiny super dense object packs the mass of the Sun into an area the size of a small town.

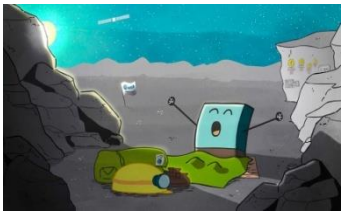


A tiny crumb of material from a neutron star would weigh twice as much as the world's biggest super tanker. Supernovas are also "Responsible" for the most bizarre objects in the universe . . . Black Holes.

The gravity inside a black hole is so strong that even light cannot escape . . . so the object is black. Tracking down black holes against the blackness of space is a great challenge, but astronomers are convincing that they do exist.

Allan Baillie

Space/Astronomy



Rosetta's lander Philae is out of hibernation!

The signals were received at ESA's European Space Operations Centre in Darmstadt at 22:28 CEST on 13 June. More than 300 data packets have been analysed by the teams at the Lander Control Center at the German Aerospace Center (DLR).

"Philae is doing very well: It has an operating temperature of -35ºC and has 24 Watts available," explains DLR Philae Project Manager Dr. Stephan Ulamec. "The lander is ready for operations" For 85 seconds Philae "spoke" with its team on ground, via Rosetta, in the first contact since going into hibernation in November, when analysing the status data it became clear that Philae also must have been awake earlier: "We have also received historical data - so far, however, the lander had not been able to contact us earlier"

Now the scientists are waiting for the next contact. There are still more than 8000 data packets in Philae's mass memory which will give the DLR team information on what happened to the lander in the past few days on Comet 67P/Churyumov-Gerasimenko; Philae shut down on 15 November 2014 at 1:15 CET after being in operation on the comet for about 60 hours. Since 12 March 2015 the communication unit on obiter Rosetta was turned on to listen out for the lander.

Rosetta is an ESA mission with contributions from its Member States and NASA. Rosetta's Philae lander is contributed by a consortium led by DLR, MPS, CNES and ASI.

Sky Dairy

July 1 - Conjunction of Venus and Jupiter, a spectacular conjunction of Venus and Jupiter will be visible in the evening sky. The two bright planets will be extremely close, appearing only 0.3 degrees apart. Look for this impressive pairing in the western sky just after sunset.

July 2 - Full Moon, The Moon will be located on the opposite side of the Earth as the Sun and its face will be will be fully illuminated. This phase occurs at 02:19 UTC. This full moon was known by early Native American tribes as the Full Buck Moon because the male buck deer would begin to grow their new antlers at this time of year. This moon has also been known as the Full Thunder Moon and the Full Hay Moon.

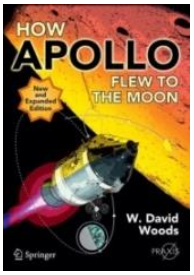
July 14 - New Horizons at Pluto, NASA's New Horizons spacecraft is scheduled to arrive at Pluto after a nine and a half year journey. Launched on January 19, 2006, this will be the first spacecraft to visit Pluto. New Horizons will give us our first close-up views of the dwarf planet and its moons. After passing Pluto, the spacecraft will continue on to the Kuiper belt to examine some of the other icy bodies at the edge of the Solar System.

July 16 - New Moon, The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This phase occurs at 01:24 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.

July 28, 29 - Delta Aquarids Meteor Shower. The Delta Aquarids is an average shower that can produce up to 20 meteors per hour at its peak. It is produced by debris left behind by comets Marsden and Kracht. The shower runs annually from July 12 to August 23. It peaks this year on the night of July 28 and morning of July 29. The nearly full moon will block out all but the brightest meteors this year. But if you are patient, you should still be able to catch a quite few good ones. Best viewing will be from a dark location after midnight. Meteors will radiate from the constellation Aquarius, but can appear anywhere in the sky.

Juan Article

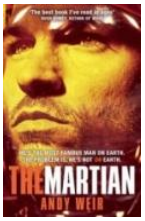
Hi again:



If you remember last May I shared with you some of the books I was reading, well I finished reading "How Apollo Flew to the Moon", by W. David Woods; The book was very interesting, and it is a fantastic work put together by David Woods and all the people that helped him. I can agree with our President that it is a very technical book and explains in detail how things work and the amazing work of the Astronauts and the people at NASA to make sure the Apollo missions where successful and to bring everyone safely back to Earth.

The beauty of this book is it explains all the difficulties encountered in putting men on the moon and returning them to earth. This book shows the reality of something Mankind achieved; it is not a Sci-Fi book with stories about aliens and worlds that did not exist. After you finish reading this wonderful book you feel proud to be Human, because of the achievement of the amazing intellectual people at NASA and the companies that worked with them to build this Spacecraft and the rockets to take them to the moon and back. It is incredible the amount of hours worked by tens of thousands of personnel and the amount of money that was needed to complete the project.

I only want to say to W. David Woods, thanks for all the work you put into this book and for sharing it with us. I will recommend it to anyone, in one word, Fantastic!



I would like to know if anyone has read the book "The Martian" by Andy Weir! We are five months away from the release of the film in October 2th 2015. I read an article in The Washington Post regarding Andy Weir and how he started the book, it is unbelievable to know what has happened since then till now and the man's life has changed in a big way. If anyone would like to read it, here is the link:

http://www.washingtonpost.com/blogs/achenblog/wp/2015/05/05/andy-weir-and-his-book-the-martian-may-have-saved-nasa-and-the-entire-space-program/

Peter Review

Review of The Martian by Andy Weir

Mark Watney is an astronaut mistakenly abandoned on Mars. Can he survive and for how long? Can Earth send a rescue mission and will it be in time? This story of Robinson Crusoe on Mars is gripping from start to finish. Refreshingly there is no science fantasy or little green men, the laws of physics appear to be followed and explained throughout the story. With the proposed first manned Mars expedition planned for 2027 many of the issues raised in the book will be relevant in the coming decade. Highly recommended and can't wait for the film out later this year.

Robert's Gadget

Well my friends, I can't be happier to introduce Robert to the newsletter and show you the terrific gadget that he has created, very simple, very economic and very safe to work with, the children can use it without a problem.

After the solar eclipse this year, and how well it was published on television through the BBC Stargazing programme, lots of school where involved in making things to see the Sun safely. We know that another eclipse will not happen for a long time, but some children may be interesting in our Sun, and to understand why it gives us heat and brightness and why it is so hot.

If any of these children want to look at the Sun safely at any time then Robert has the answer. He has made the perfect safety equipment for all and I will explain how you can do it easily.

What you need:

1.- Get a ready meal box from a supermarket.
2.- Take the meal out of the box and keep the box.
3.- Paint the box black so you can hide whatever is on the box.
4.- Eat the meal first of course! Then keep the plastic plate or bowl.
5.- Clean the plastic plate or bowl and cut a rectangle in the middle about 2cm wide x 8cm long.
6.- Cut a frame of cardboard that will go over the rectangle you make on the plastic plate or bowl.
7.- Then cut a piece of Sun filter aluminium paper, (you can get some of this filter on the internet) and put it between the cardboard frame and the rectangle on the plastic plate or bowl.
8.- Live it to dry for a few minutes and then you have it - a perfect Sun protector that covers all the face, so you can look at the Sun safely.

Cheap, Efficient, Light and Safe "Sun Viewer Protector" and don't forget you have a nice meal too.

Well done Robert, your gadget is an inspiration to us all and thank you for sharing it with us and keep up the good work, we can't wait to see your next gadget. Juan