



Newsletter February 2019

Next Meeting: **25th February 2019**

Dr. Stuart Grey – The History and Future of Space Debris

7pm at Prestwick Academy



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President's Word

I was a touch saddened by the news that Nasa has given up in its attempts to revive the Mars Rover "Opportunity" last Tuesday, after a dust storm in June 2018 rendered it uncommunicative. That said, the achievements made by the rover and it's team of operatives have been nothing short of miraculous. Originally Opportunity was supposed to last only 90 days before being retired. The fact that it lasted for 15 more years in itself is quite a feat. It was also only designed to travel 1000 metres, a distance that has been bettered 45 times. Yes, Opportunity has travelled 45 kilometres on the Martian surface - just over 28 miles! Further achievements made by Opportunity:

Set a one-day Mars driving record March 20, 2005, when it travelled 721 feet (220 meters).

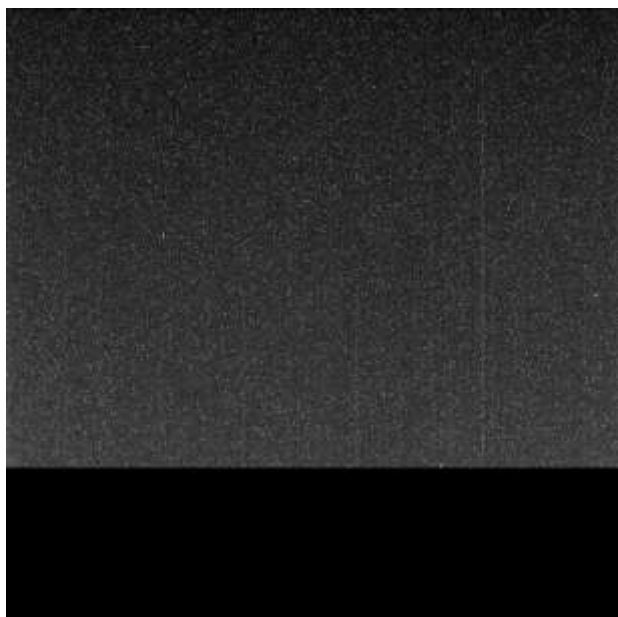
Returned more than 217,000 images, including 15 360-degree color panoramas.

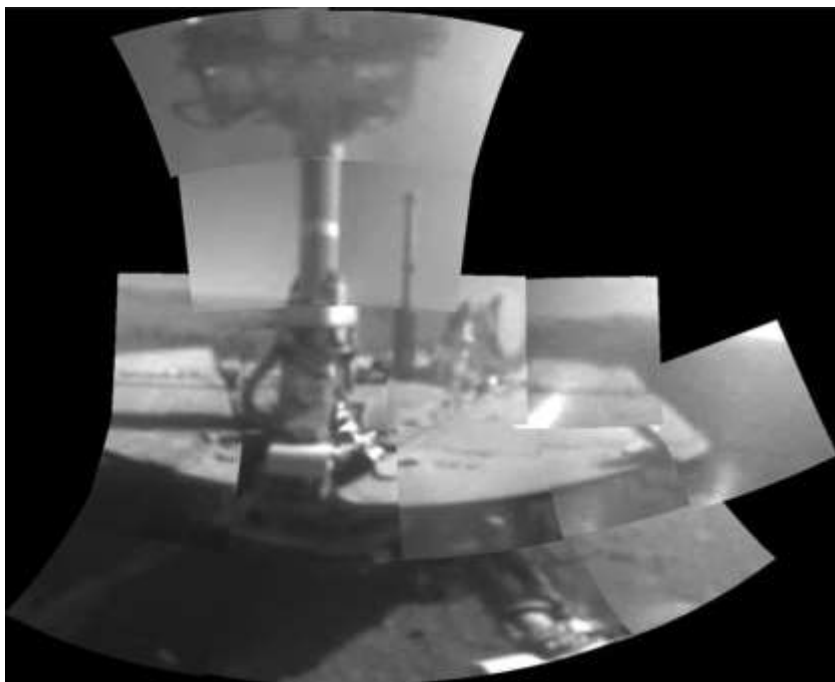
Exposed the surfaces of 52 rocks to reveal fresh mineral surfaces for analysis and cleared 72 additional targets with a brush to prepare them for inspection with spectrometers and a microscopic imager. Discovered strong indications at Endeavour Crater of the action of ancient water similar to the drinkable water of a pond or lake on Earth. Found Hematite, a mineral that forms in water, at its landing site. It also hasn't been plain sailing during its 15 years on Mars. In 2005 alone, steering was lost to one front wheel, a heater stuck causing the available power to be seriously reduced, and then to cap it all, sandy terrain almost trapped it for good. Then in 2007, a two-month dust storm caused Opportunity to go into hibernation, as the dust was so thick, charging was impossible. Later on its life, it lost its 256Mb flash memory and then in 2017 it lost steering in its other front wheel. Slowly but surely, its days were numbered. Opportunity now lies in Perseverance Valley, unable to communicate, but what a journey this little rover has been on!

In the words of Michael Watkins, head of JPL: "I cannot think of a more appropriate place for Opportunity to endure on the surface of Mars than one called Perseverance Valley. The records, discoveries and sheer tenacity of this intrepid little rover is testament to the ingenuity, dedication, and perseverance of the people who built and guided her." I wish you all well in your astronomical endeavours, and look forward to seeing you all at the next meeting, and remember, "Perseverance!"

Roger Harman

The final image 'Opportunity' sent back to Earth on 10th June 2018. The image, taken by its panoramic camera, was supposed to show Perseverance Valley. But instead the image just showed static and darkness as the deadly storm rolled in.





The famous Opportunity Sol 5000 selfie.

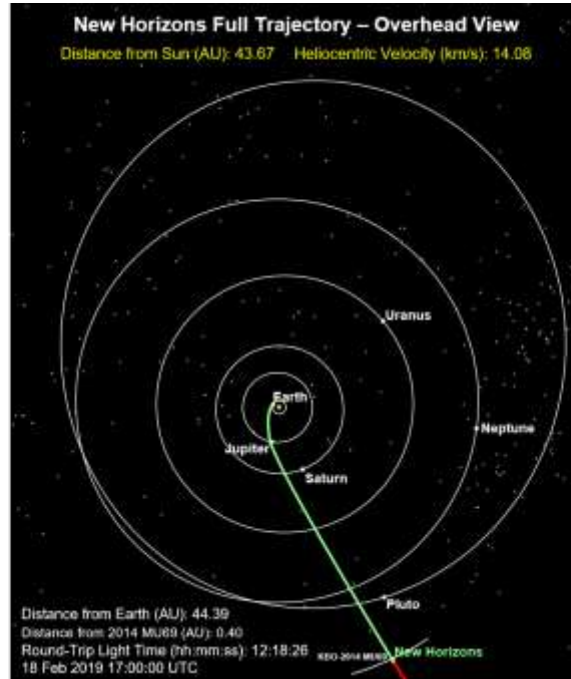
News and Events

This day 1930, Clyde Tombaugh discovered Pluto using the 13 inch astrograph (picture below) based at the Lowell Observatory near Flagstaff, Arizona.



The New Horizon mission which launched from Cape Canaveral in 2006, and flew by Pluto in July 2015, carried a small portion of Clyde Tombaugh's ashes who passed away in 1997. Where is the spacecraft now? Have a look...





Updated 18th February, 1700 UTC



New AAS website

Some of you might have already noticed that we updated our AAS website. If you have not seen it yet, check out www.ayrastros.com. Stephanie has put a lot of effort in to modernise the website and updated a couple of items. Let us know what you think! If you have any images you would like to add to the website, email them to me or speak to one of the committee members at the next meeting. Thanks

Alex's Space

A UNIQUE HOME:

Our Earth is filled with marvellous things, here are just a few of them;

BIG THINGS:

A setting Sun that turns the western sky into a blaze of colours, a night sky packed with millions of twinkling stars. A forest of tall trees, their leaves rustling in a gentle breeze, jagged mountain ranges, their snow covered tops glistening in the Sun. Surging oceans, their waves crashing onto the beach, a flash of lightning followed by rumbling thunderThor in a bad mood! These things fill us with awe,



A SMALL THING;

A little bird, a warbler perhaps, flying high over the Atlantic heading towards Africa on its way to South America. At about 20,000 feet, it picks up the jet stream that turns it towards South America. Directed by its migrating instinct it follows its course for many days, it never lands to rest and eat and “sleeps” on the wing. About 3,000 miles later it reaches its destination an ounce of courage wrapped in feathers we are filled with admiration and wonder.

INGENIOUS THINGS;

Bats that use SONAR, eels that make electricity, gulls that desalt sea water, wasps that make paper, termites that make multi-room structures complete with air conditioning, a harem and a maternity unit!! Octopus that travel by jet propulsion, birds that do weaving to build their houses. Ants that do gardening, keep livestock and send out raiding parties! Fire flies with built in flashlights. We marvel at such ingenuity.

SIMPLE THINGS;

As life nears its end, it is the simple things that we often focus upon, things that we have, for so long, taken for granted, .. a smile, a kind word, the touch of a hand, a tiny flower, the singing of a bird, the warmth of the Sun. When I think of all these things it reminds me of the title of a song from the 1960s sung by Louis Armstrong

“What a wonderful World”

Alex Baillie

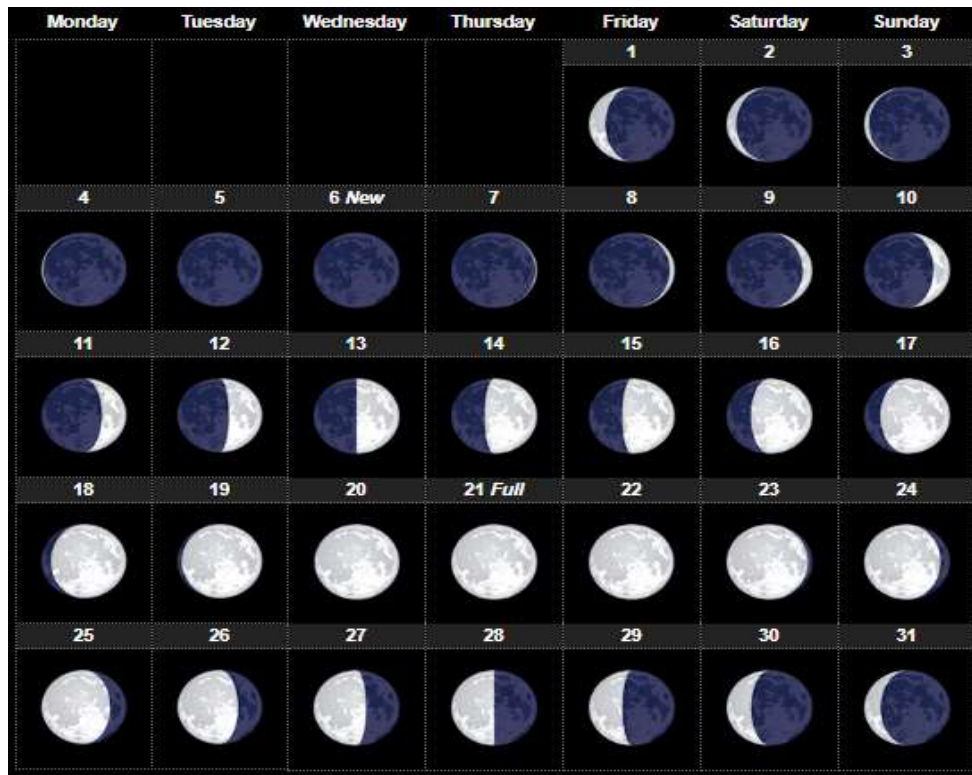
Feb 2019



Miscellaneous

Moon phases March 2019





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 library is now full up - if you would like to obtain a list or borrow an item

– contact Alex at the next meeting or give him a call on 01563 520887.

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

THE LIBRARY IS WAITING FOR YOUR CALL!! There are a lot of interesting items to borrow

And finally

