



# Newsletter November 2019

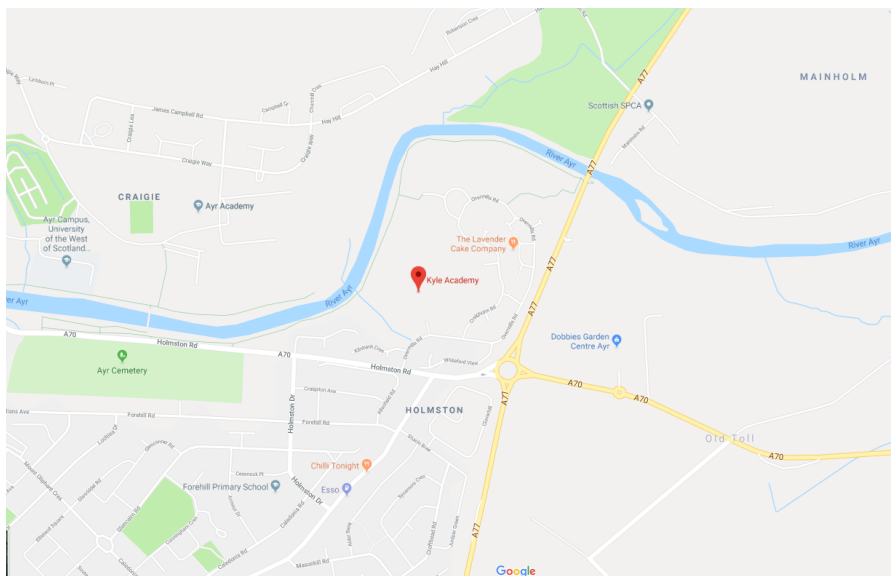
Next Meeting: **25<sup>th</sup> November 2019, 7pm**

Speaker: Martin Hendry – Gravitational Waves

**Kyle Academy, Overmills Road, Ayr, KA7 3LR**

## Contents

President's Word	p. 2
Upcoming Events	p. 3
Dec Observing	p. 3
Member Articles	p. 4
Member Images	p. 5
Library	p. 9
Moon Phases	p. 11



## President's Word

Well, it's getting colder and darker so it must mean that practical astronomy season is now in full swing and I hope you are all making the most of the clear skies while they are available!

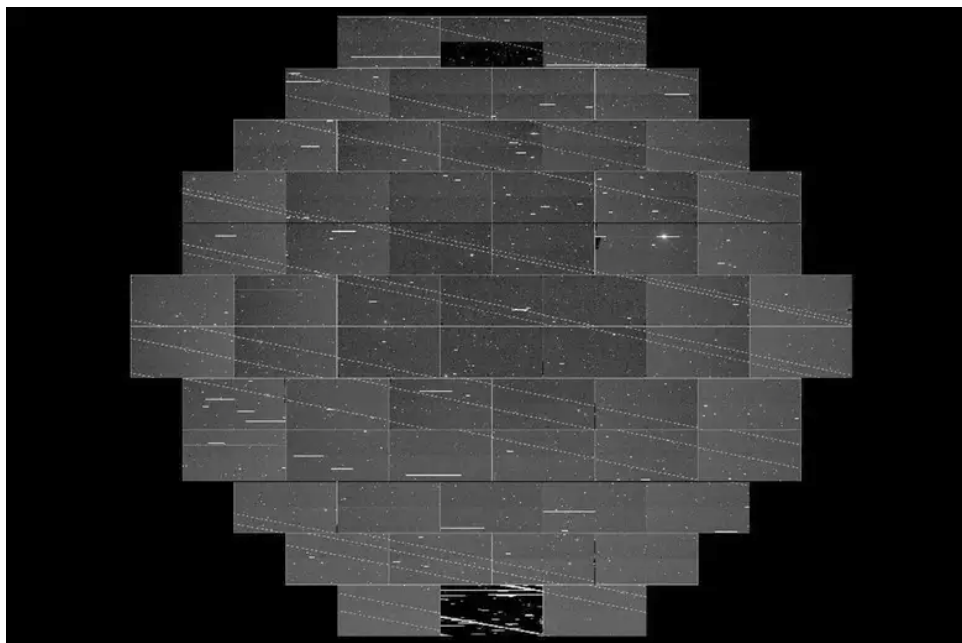
One thing that may be a fly in the ointment, is the latest development in the Elon Musk/SpaceX saga that is Starlink, Musk's plan to give worldwide internet access. After the first launch, astronomers noted that the satellites were extremely bright, causing issues with scientific research and practical observing/photography, which personally I find unacceptable. The latest batch of launched satellites, which has brought the total to 120 in low orbit, has interfered with astronomical observations using the DECam (Dark Energy Camera) at Cerro Tololo Inter-American Observatory (CTIO) in Northern Chile. This camera takes images of large expanses of the night sky in visible and near-infrared wavelengths and is only 20 kilometres north-west of the Large Synoptic Survey Telescope, a huge observatory currently under construction, which will map near-Earth asteroids, and study supernovae and dark matter.

The FCC (Federal Communications Commission in the US) has given SpaceX permission to launch a further 12,000 satellites and other companies such as OneWeb and Amazon already have plans for similar fleets of satellites. Last month SpaceX filed documents that showed plans to launch 30,000 additional small satellites, which is 3 times the number of artificial satellites launched into orbit to date.

With this information, I suggest that anyone who wishes to photograph and observe the night sky without intrusion of man-made objects, does so sooner rather than later, as unfortunately there is no regulation controlling the brightness of satellites, so it may be more likely than not that a satellite will feature in future observations. SpaceX has said that they may paint their satellites black to give less impact on astronomical observations, but we are still in early days for this development.

I hope this news doesn't upset you too much and it certainly shouldn't discourage you from getting out and observing/photographing the night sky.

The diagonal lines numbering 19 in total, are the tracks of the Starlink satellites which lasted for over 5 minutes at CTIO



Clear Skies!  
Roger Harman



## Upcoming Events

### Christmas Meal!

Yes, it is coming up to that time of the year again. Our Christmas Meal has been booked for the Monday the 2<sup>nd</sup> of December, 7pm, at the Chestnuts Hotel. The meal includes three courses and is priced at £25, payable at our November meeting. The price also includes a tip for the staff.

To view the menu please visit the hotel website at:

<http://www.chestnutshotel.com/>

## December Observing

### General

The winter sky starts become more prominent at the start of December. With it, the galaxies M31 and M33, along with objects like the Pleiades (M45), the Crab Nebula (M1), the open clusters in Auriga (M36-38) and Double Cluster in Perseus are well placed for observing.

Orion will also be climbing higher in the sky, and is best viewed later in the evening. Of particular interest is the Orion Nebula (M42) which is suitable for viewing in any kind of instrument from binoculars to very large telescopes.

### Key December Events

11<sup>th</sup> Full moon – sadly making it difficult to see meteors or deep sky objects.

11<sup>th</sup> and 12<sup>th</sup>: Conjunction of Venus and Saturn, though low on the western horizon, from a good vantage point they will make a striking pair. On the 12<sup>th</sup> they will pass within two degrees of one another.

14<sup>th</sup>: Geminids – They peak at 19:00, unfortunately, the moon is only three days past full and may make viewing difficult.

15<sup>th</sup>: Moon and Beehive (M44) will be close together, about 9 degrees apart, however, the gibbous moon may make seeing difficult. Best viewed with binoculars.

21<sup>st</sup> and 22<sup>nd</sup>: Ursid Meteor shower peaks, generally reaches 5-10 meteors, the moon will not present a problem for this shower.

22<sup>nd</sup>: Winter solstice at 4:19am



## Member Articles

### Alex's Space

Tempus Fugit....

Yes, time sure does fly - - 50 years have passed since Neil Armstrong took that "One Small Step for Man" onto the 'Moon' on the 21<sup>st</sup> of July 1969 and returned safely on the 24<sup>th</sup> of July. The actual moon walk happened 4 hours early because the crew on Eagle were too excited to take their scheduled 4 hour sleep period!

Although it was a fantastic achievement, considering the technology available at the time, it was not the only even that took place in 1969 - - here are a few of them.

#### January 16<sup>th</sup>

Soyuz 4 and Soyuz 5 performed the first transfer of a crew in space.

#### February 9<sup>th</sup>

The first test flight of Boeing's 747 Jumbo Jet.

#### March 4<sup>th</sup>

The east end gangsters Ronnie and Reggie Kray are found guilty of murder and sentenced to life behind bars.

#### July 24<sup>th</sup>

Apollo 11 returns to Earth and after 18 days of quarantine the crew took part in a ticker-tape parade through New York.

#### August 14<sup>th</sup>

British troops are deployed in Northern Ireland marking the start of the Troubles.

#### September 26<sup>th</sup>

The Beatles release their 'Abbey Road' album which goes to No 1 in the charts and stays there for 11 weeks.

#### October 5<sup>th</sup>

The first series of Monty Python's Flying Circus is shown on the BBC.

#### December 16<sup>th</sup>

The House of Commons votes 343-185 to abolish the death penalty.



As for the swinging 60's fade out the Abba 70's take centre stage.

And finally:

Do polar bears eat penguins – No and it's not because they can't get the wrapper off! -- -- Polar bears live in the Arctic, whereas penguins live in the Antarctic, which is good news for them but could be bad news if the ice caps continue to melt and the polar bears have to emigrate south.

Back Next Month.

Alex Baillie

Nov 2019





## Member Images

### Dave Hancox

Composite Shot taken last night Milkyway is 6min of 20secs stacked the round house is one of those frames which was light painted. It was taken in a cold and biting wind. Pentax k70 Zenitar Lens f2.8 15mm ISO 6400 18x 20secs.





Messier 81 and 82. Messier 82 (also known as NGC 3034, Cigar Galaxy or M82) is a starburst galaxy approximately 12 million light-years away in the constellation Ursa Major. Messier 81 is a spiral galaxy about 12 million light-years away, 12x300 sec frames.



B150 Seahorse nebula is made up of soot and dust within our galaxy. It appears dark because it is blocking out the light of stars behind it. My attempt taken with 102mm triplet mounted on NEQ6 mount guided with QHY mini guider and QHY8L camera 6 x 1200 sec images stacked in DSS.



## Marc Charron

A Leonid Meteor photobombed my image of the lunar iridescence in the cloud on the morning of November the 21<sup>st</sup>.



Crescent Moon on November the 22<sup>nd</sup>, just after sunrise

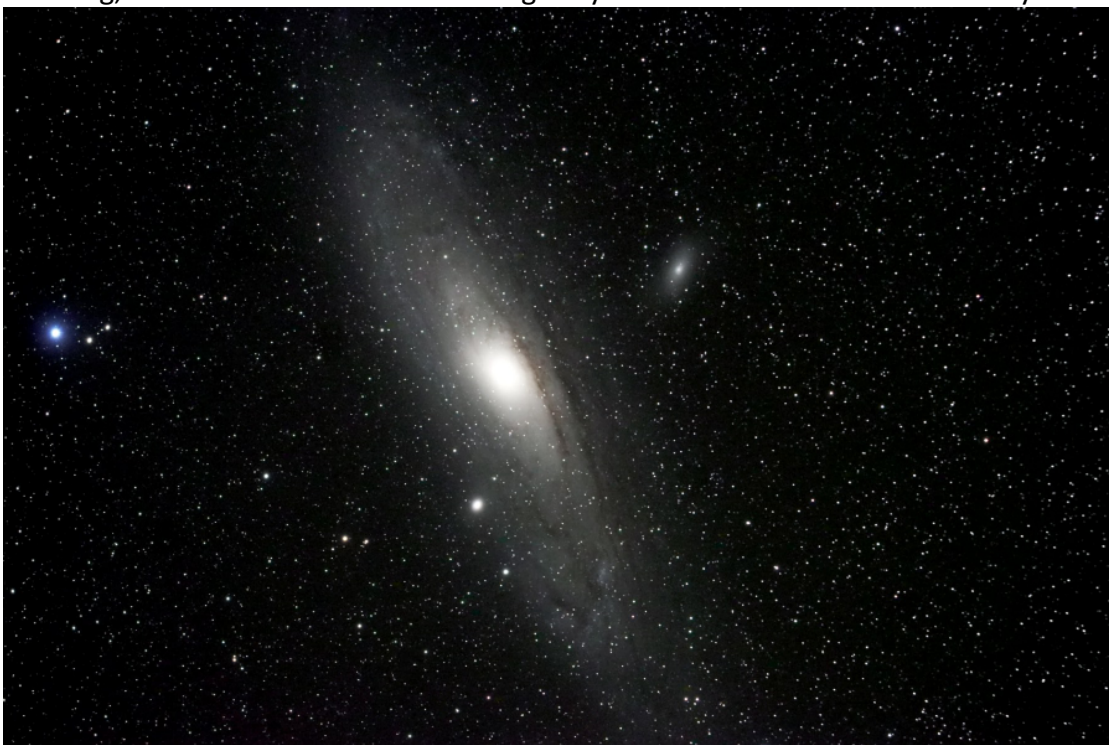




My first attempt at photographing the Veil Nebula in Cygnus using a 70mm f6 triplet at f4.8 mounted on a Skywatcher Star Adventurer. Stack of images taken over two nights. The Veil is about 1,500 light years distant and almost 80 light years across. It was created by a supernova about 8,000 years ago from a star about 20 times the mass of the sun.



Lastly, the glorious M31 shot using the same setup. Messier 31 is the main galaxy, M32 is the small ball to the lower left of the main part and M110, is to the right of the galaxy. M110 was credited to Charles Messier in 1966, long after he had passed from the scene. The galaxy is now thought to be the same size as the Milky Way, not larger as previously estimated. It remains at two and half million light years away. Warning, a collision between it and our galaxy will occur in another 4.5 billion years!





## 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](mailto: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

AAS member Graham has kindly donated 9 Sky at Night DVD's. They are included in this new library list. If any member wishes to borrow an item please phone me quoting the code no. and title. It will be brought to the next AAS meeting, to be returned the following meeting.

### Books

- B1 Comets
- B2 Hyperspace
- B3 The Universe
- B4 Using a Telescope
- B5 Space Handbook
- B6 Edge of Physics
- B7 History of the Universe
- B8 Light Years
- B9 Chaos
- B10 Stars and Planets
- B11 Observatories of the World
- B12 Space – The Definitive Guide
- B13 The Universe in a Nutshell – Stephen Hawking
- B14 A Brief History of Time – Stephen Hawking
- B15 Extreme Spaces – Patrick Moore
- B16 Passion for Astronomy– Patrick Moore
- B17 Exploring the Sky– Patrick Moore
- B18 Guide to the Night Sky
- B19 The Space Shuttle
- B20 Wonders of the Universe – Brian Cox
- B21 Wonders of the Universe – Brian Cox
- B22 Hello Planet Earth – Tim Peake
- B24 Hubble Images
- B25 The New Astronomer

Sci/Fi Novels

- 1SF Rocket to Limbo
- 2SF Summer Morning
- 3SF A Far Sunset
- 4SF Falling Sky
- 5SF The Martian

VHS Tapes

- V1 2001 – A Space Odyssey
- V2 2010 – A Space Odyssey

Audio Books

- AB1 A Fall of Moon Dust (4 CD's)
- AB2 A Space Odyssey (6 CD's)

Sky At Night DVD's

- 1SAN Moon Impact
- 2SAN Planetarium
- 3SAN Fly the Shuttle
- 4SAN The Amateur Astronomer
- 5SAN Apollo 13
- 6SAN Moon Dust
- 7SAN Britain's Space Race
- 8SAN X15 Space Plane
- 9SAN Astronomy Tools

DVD Films

- 1DVD Avatar
- 2DVD Interstellar
- 3DVD The Martian
- 4DVD Enders Game
- 5DVD Arrival
- 6DVD How to Use a Telescope

Space Pod Casts (CD's)

- 1PC – 10pc – Lucky Dip!!

Alex Baillie  
(01563) 520887





**Moon Phases**

# DECEMBER 2019

