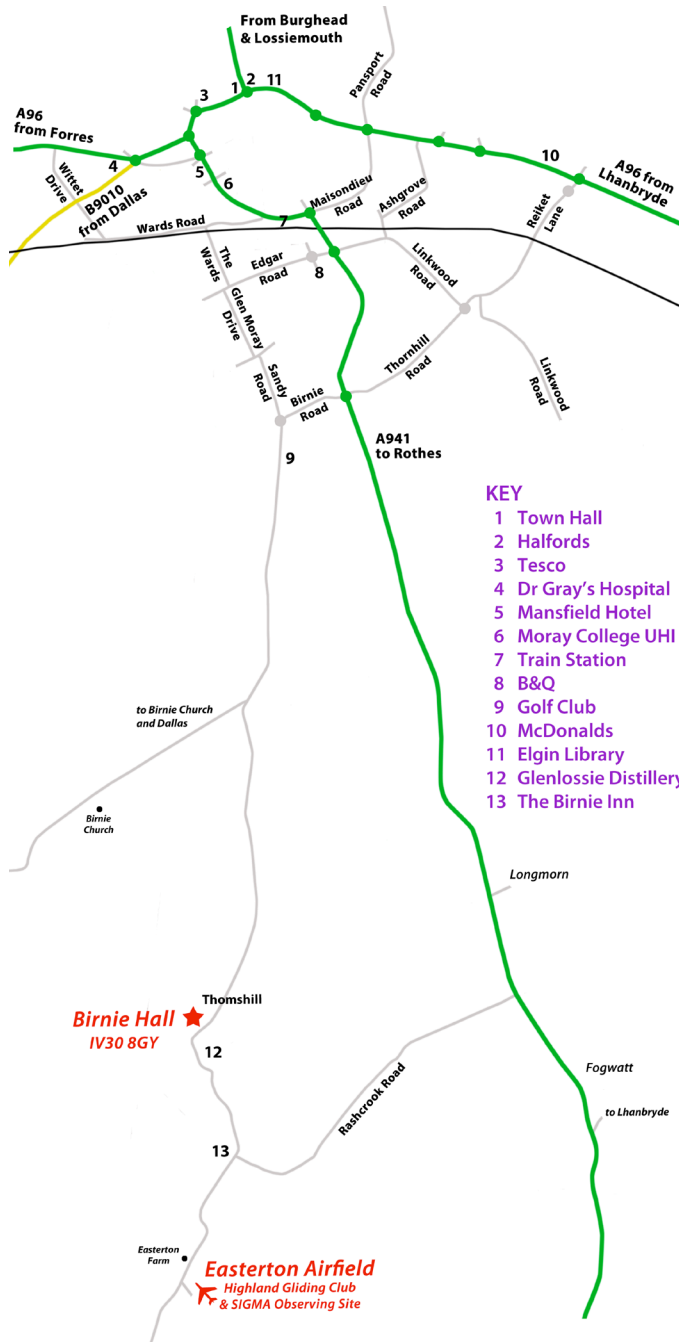


## Where to Find Us



**\*\*Doors open 7pm for 7.30pm start\*\***

**Come along and join us - your first meeting is free.**

Membership is open to everyone and children's membership is free, but a parent or guardian must accompany them if they're under 16 years of age. You can 'try before you buy' as the first meeting is free. So do come along and join us.

SIGMA holds its meetings on the first Friday of every month (*with the exception of January*) at Birnie Village Hall, Thomshill, just south of Elgin as depicted on the map.

From the hall it's a short hop to our dark site at Easterton Airfield, which allows us to hold observing sessions immediately after meetings when conditions are suitable.

Observing sessions are also held at our dark site on Friday and Saturday evenings (*conditions permitting*). Site opening is advised by email but those without this service can be advised by telephone on request. The site is well worth visiting as many deep sky objects can be seen, that would otherwise be obscured by light pollution.

Additionally, SIGMA has an active 'outreach' programme to bring astronomy to schools, groups, clubs and societies. Full details on how to 'Rent an Astronomer' can be found on our website, or by contacting the SIGMA Chairman, Stan Barber.

### Membership Rates

£24.....Ordinary

£12.....Student (*over 18 in full time education*)

£18.....Concessionary (*over 60s may apply for this - please contact the Membership Secretary for information*)

Membership is renewed in full (*unless there are extenuating circumstances*) in January. New members joining during the year will pay a pro-rata fee. The first meeting is always free.

SIGMA and Highlands Astronomical Society members may attend each other's monthly meetings and events. (*Note this does not confer voting rights.*)

*All information correct at time of publication. E&OE.*



# Club Meetings and Information 2019

### Presidents

Bill Leslie  
Tim Schroder

### Committee

Stan Barber (Chairman)  
Rachael Barber (Secretary)  
Stuart Brooks (Treasurer)  
Pete Sherman (Events)  
Mick O'Donnell (Membership)  
Donna Williamson  
Richard Oakley

*Contact emails for the above are on the website*

[www.sigma-astro.co.uk](http://www.sigma-astro.co.uk)

SigmaAstro sigmaastro

**Friday 4th January 2019**

**SIGMA Stargazing and Equipment Night -  
a joint club night and public observing session.**

**Venue: Lhanbryde Community Centre**

Held at Lhanbryde, this event will give members and visitors a chance to see many of the wonders of the local night sky and talk with local astronomers.

**Friday 1st February 2019**

**Astrophotography**

**Eric Walker - Highlands Astronomical Society**

Long-time friend of SIGMA, Eric will share his knowledge about imaging the night sky, most of which he has done from his home built *Beinn View* observatory in the Highlands.

**Friday 1st March 2019**

**New Views of the Sun's Hot Corona**

**Dr Iain Hannah - University of Glasgow**

Why is the Sun's outer atmosphere, (corona) hotter than its surface? Also the further away the corona gets the hotter it becomes. This has been a major topic of solar physics research for decades. Iain will cover a brief history of this problem, some of the modern solutions using the latest images and movies from space-based telescopes, and how scientific observations during eclipses are still useful today.

**Friday 5th April 2019**

**HOYS-CAPS**

**Dr Alexander Scholz - University of St Andrews**

Alex will explain the HOYS-CAPS (*Hunting Outbursting Young Stars with the Centre of Astrophysics and Planetary Sciences*) project aims to work together with amateur astronomers in long-term photometric monitoring of young stellar clusters to find outbursting objects for detailed follow up study.

**Friday 3rd May 2019**

**Astronomical Alchemy**

**Gordon Mackie - Caithness Astronomy Group**

Celebrating the *International Year of the Periodic Table of Elements (IYPT 2019)*, chemist and amateur astronomer Gordon Mackie gives an overview of how the chemical elements are formed, followed by a brief guided tour of the Periodic Table highlighting the significance of some of the elements from an astronomy perspective.

**Friday 7th June 2019**

**Annual General Meeting/Solar Observing**

**Venue: TBA\***

**Lyn Smith - The British Astronomical Association**

Another chance to catch up with events within SIGMA over the last year and to elect the new committee. Plus there will be a talk about the Sun from the BAA Solar Section Director Lyn Smith. You'll also be able to ask her any burning question you may have about the Sun during a solar observing session.

**Friday 5th July 2019**

**Beginners Guide to Astronomy**

**Pete Sherman - SIGMA**

Pete will give a light hearted and informative guide to getting started in astronomy. Including how to stay safe and warm when observing, what equipment you may or may not need, and how to traverse the minefield that is choosing a telescope.

**Friday 2nd August 2019**

**The Rise of Astrophysics 1890 - 1930:  
the story of 4 remarkable women**

**Neville Brown - Aberdeen Astronomical Society**

In the late 19th century the Harvard College Observatory in Cambridge, Massachusetts was home to a series of remarkable and ground-breaking discoveries that were fundamental to the birth of what we know today as "astrophysics". Much of this work was carried out by a team of human "computers", all women, at a time in history when this was very much not the norm. This talk focuses on the 4 main players in this fascinating, and at times bizarre, story.

**Friday 6th September 2019**

**The Search for Life in the Universe**

**Prof. Charles Cockell - University of Edinburgh**

For the first time, using robots and telescopes we are on the verge of getting some sort of idea about whether we are alone in the Universe. In this talk we'll take a tour of these distant worlds and new missions and consider the prospects for life elsewhere.

**Friday 18th October 2019**

**The Third George Fraser Memorial Lecture**

**Venue: TBA\***

In 2015 SIGMA, in association with Morayvia, held its first memorial lecture in honour of Prof. George Fraser (22 July 1955 - 18 March 2014).

Born and brought up in Burghead, George was *Professor of Detector Physics and Director of the Space Research Centre of the University of Leicester*. Though his work was recognised internationally, his achievements are virtually unknown locally.

**Planets, Planets Everywhere -  
but is the Earth unique?**

**Prof. Andrew Cameron - University of St Andrews**

After 20 years of ground-based planet searches and the completion of NASA's Kepler/K2 planet-hunting mission, it seems that every star has a planetary system of some sort, but with a bewildering range of different architectures. So to what extent has our homeworld been shaped by the forces that carved out the early solar system? And does that make our Earth commonplace, or a freak of nature?

**Friday 1st November 2019**

**TBC**

**Prof. Ken Rice - Royal Observatory, Edinburgh**

*Details of this talk not available at time of publication -  
please visit our website for details*

[www.sigma-astro.co.uk](http://www.sigma-astro.co.uk)

**Friday 6th December 2019**

**Christmas Quiz**

**SIGMA Members and your Families**

Bring along the family for a night of fun, questions and mince pies to end the year. There will also be the usual Xmas raffle and an update on future planned events for SIGMA in 2020.

*Correct at time of publication. SIGMA/Guest Speakers reserve the right to change a talk/venue - these will be updated on the website.*

*\* Venue details not available at time of publication -  
please visit our website for details*

**Unless otherwise stated, monthly meetings are held at Birnie Village Hall, Thomshill, Elgin, Moray, IV30 8GY.  
In the event of any changes/cancellations these will be advised on our website [www.sigma-astro.co.uk](http://www.sigma-astro.co.uk)**