

# Stargazey Pie – May 2012

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## Society Notices

- 1. 2012-13 Programme Update and Dates for Your Diary:** available on the website.
- 2. Sat. 19<sup>th</sup> May at 18:00 at Eden Court Theatre.** Part of the UK Green Film Festival *The City Dark* is about light pollution and the disappearing stars. The film runs for 83 minutes. Tickets £5.00. This will be followed by a discussion in which Arthur and Pauline will take part. They would welcome your support.
- 3. Wed. June 6<sup>th</sup> at Nairn Harbour - Transit of Venus** (weather permitting) from 04:00 – 06:00. Bacon butties may be available. Contact Steve Cullen on 07557 199 930.
- 4. Please keep the weekend of 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> September 2012 free.** “A special event to celebrate the all new **Orkney Astronomy Society** (OAS) during this year’s Orkney Science Festival which is from 6 to 12 September. The event is exclusively for members of HAS, Sigma, Caithness Astronomy Society, OAS and Shetland. Individuals can of course extend their stay”. Further details will be available later.
- 5. If Orkney is too far, then that same weekend the BAA has their weekend meeting at King’s College, University of Aberdeen AB24 3FX** to consider Sun, Aurora and Noctilucent Clouds.  
<http://britastro.org/baa/>
- 6. Solar Saturday Observing Sessions - JSL Observatory, NTS Visitor Centre Car Park, Culloden Moor.** Please check [www.spacegazer.com](http://www.spacegazer.com) before setting out.

Date	For Whom	Time	Supervisors
Sat. 5 <sup>th</sup> May	public and members	14:00 – 16:00	Pat W.
Sat. 12 <sup>th</sup> May	public and members	14:00 – 16:00	Steve C.
Sat. 19 <sup>th</sup> May	public and members	14:00 – 16:00	Gerry
Sat. 26 <sup>th</sup> May	public and members	14:00 – 16:00	Antony
Sat. 2 <sup>nd</sup> Jun.	public and members	14:00 – 16:00	Paul J.

From April to mid-September, weather permitting, Solar Saturdays will be held at the Observatory.

## **7. The Next Meeting is on Tuesday 5<sup>th</sup> June 2012.**

When Gordon McKenna will give a talk entitled Venus: The Planet and the Transit. The “**Youngstars**” session for 8-14 year olds, before the main meeting, will run from 19:00 until 19:30 led by Pauline and Triona.

## **8. The Aurora and Telephone Alerts.**

The Sun is active. Aurorae are forecast. Should you see an aurora, noctilucent clouds, sprites or anything else of astronomical interest please alert Paul (01667 456789), Pauline (07751 112586) or Pat W. (0793 0183 999). It is never too late at night. We currently have 33 members who are happy to be contacted in the wee small hours.

### **9. New Committee Members.**

Welcome to Steve Cullen, Caroline Woods and a returning Gerry Gaitens.

### **10. Images of HAS Events.**

Maarten would welcome digital photos to use on the website. Please send him your best images to <mailto:maarten@spacegazer.com>

## **Report on the main talk, Ken Kennedy – Getting to Know the Moon**

Our May speaker started with a message – love our old friend the Moon.

Ken Kennedy of the Dundee Astronomical Society and the Aurora Section of the British Astronomical Association encouraged us to look back at the Moon, not a nuisance that blocks out deep sky observing but a fascinating astronomical target in its own right. Reminding us of times when Sir Patrick Moore allocated craters to different interest groups in the search for transient lunar phenomena, he took us on a tour of the history and features.

Where does the Moon come from? There have been four theories to explain it: that it was formed by the rotation of the Earth spinning it off, by co-accretion from the same material as the Earth, by being captured and by collision. This last, though not proven beyond doubt, is the most likely.

We think that the Moon is the result of a catastrophic impact between the Earth and a Mars-sized planet, perhaps an icy body. The size of the iron cores, similar oxygen isotopes in Earth and Moon rock, lack of volatiles on the Moon and current spin rate of the Earth all point in this direction.

Much of the joy of observing the Moon comes from exploring craters. In looking at these, we are examining the history of the solar system. The Moon's surface has not been shaped by volcanism but by impacts striking the surface at high speed. There are features to look out for: sharpness of the rim (the sharper ones are usually younger), erosion, secondary impacts, terracing, central peaks or interiors flooded with basalt, patterns of ejecta deposit and rays.

Starting with simple round craters like Linné, one can move on to young Tycho, with its sharp sides and central peak and 109 million years old, and then to Clavius, 4 billion years old with eroded walls and secondary craters inside. Secondary craters are always more recent than the craters they strike, and a good indication of the age of the underlying feature. We were introduced to Plato, a lava-filled crater with no central peak, and a sequence of photographs taken by Alex Pratt showing the progress of shadows across the crater in just 3 hours. Crater history shows a steady decline from the earliest

days of the Moon interrupted by a huge spike, the Late Heavy Bombardment around 3.9 billion years ago, when many craters were formed.

What about non-crater features? There are 10 Maria (seas) on the Moon caused by impacts that have since flooded from beneath with lava. The Oceanus Procellarum may be the result of many impacts. There are also wrinkle ridges (Dorsae) caused by the cooling and contracting of the lava and Graben Faults and Rimae caused by the shrinkage of the Moon itself, as well as sinuous valleys carved by flowing lava before the end of the Moon's volcanic period. Finally, we were encouraged to spot lunar domes, the last active areas of volcanism, such is the complex Mons Rumker region on the Oceanus Procellarum – see <http://www.damianpeach.com/lunar0709.htm> for an image of these strange features.

So there are many features on the Moon. They record our history, because what happened on the Moon has happened on Earth as well. A final word from our speaker – go out and enjoy the Moon, it's always there.