

THE CHESTERFIELD ASTRONOMICAL SOCIETY

NEWSLETTER JUNE 2014

CAS website www.chesterfield-as.org.uk

Registered Charity No. 514048

Secretary: Mark Eustace

Newsletter: Sue Silver
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President – Reinhold Gasser, Secretary – Mark McKeown, Treasurer – Graham Leaver,
Newsletter Editor – Sue Silver, Events Organiser – Suzannah Torry, CAS Webmaster – Simon Instone, Mark
McKeown. Committee Member: – Geoff Fell. Co-opted Member: Mario Stevenson

Subscriptions - full membership £60
or £6 per month by Standing Order (10 months)

Senior citizens (60 yrs and over) and students (18 yrs and over) £40
or £4 per month by Standing Order (10 months)

Juniors members - (17 yrs and under) £0.
(All juniors must be accompanied by an adult who must be a fully paid up member).

Welcome to the JUNE issue of the CAS newsletter.

CAS News

Wingerworth Festival – Saturday 17th May

This was a great day. The weather was perfect (for a change). There were several scopes on view for the public to see but the star of the show was our solar scope. We had lots of people who came and had a look at the sun through it and most of them were blown away by what they could see. Some came back for another look, some fetched their wives, husbands, sons, daughters etc. so they could see the sun. We had quite a lot of enquiries from visitors as to where we were situated and asked about visits to the Observatory. All in all a good publicity day for the Society.

Many thanks to all those who helped and to those who brought telescopes and to Richard Van Ryssen who sheltered us from the sun with his gazebo!

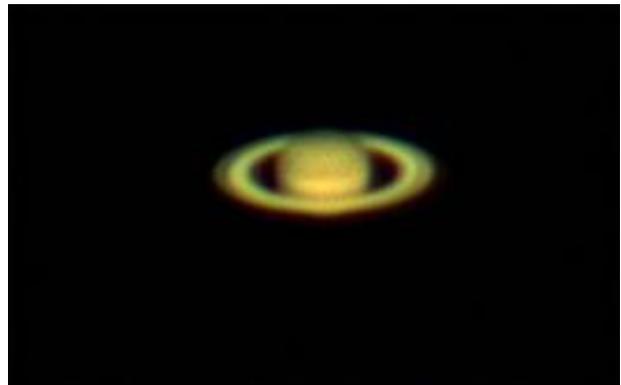
Friday 23rd May

The annual AGM was held on this evening. Mark Eustace stepped down from the committee. After Rich Westwood left the committee Mark had filled the role as acting secretary. This has now been taken over by Mark McKeown and we are grateful for Mark M stepping into this role. The members thanked Mark E for all the very hard work he has put in as acting secretary and publicity officer. Mark advised that he would still do the talks for us which is great news. Suzannah Torry also stepped down from the committee but agreed to fill in as Events Organiser. She, too, has helped with the talks and is still prepared to help out in the future. Geoff Fell was welcomed as a new committee member. Mario Stevenson was co-opted onto the committee last year but will be leaving us some time in the near future to live in Austria. We would like to thank him for all his help in the dome with the group visits over the winter season and to wish him well in his pending move.

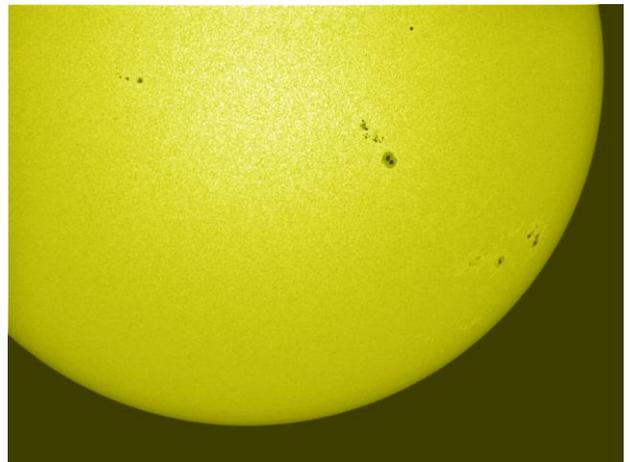
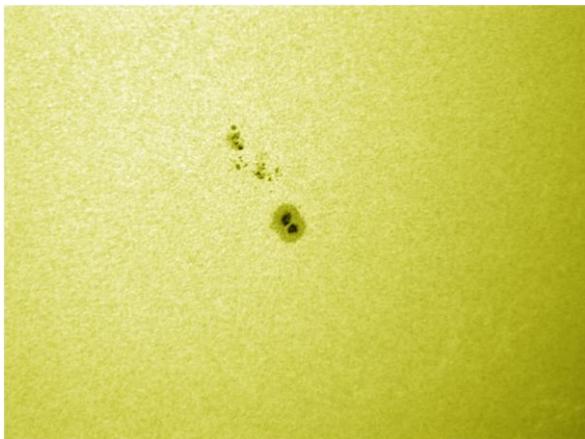
After the AGM we had a great photo show. A guy from Mexborough and Swinton Astronomical Society who now lives in Spain is back visiting the UK on personal matters. He studies the Sun (of which he gets plenty of in Spain) and we were treated to a fantastic show of his work.

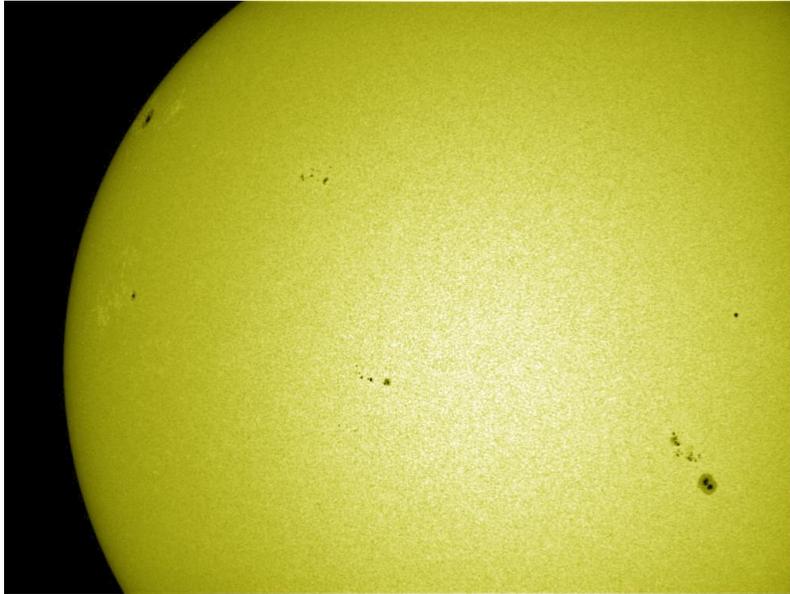
This month's photographs

These are from Graham Leaver of Mars and Saturn on 2nd/3rd May.



These are also from Graham this time of the sun.





He says "Seeing not so good and taken with my 80mm f7.5 with a Kendrick solar filter".

Look good to me!!

Amazon Commission

This is from Mark McKeown regarding our purchases on Amazon through our website:-

"I am really pleased by the support that members have given to our Amazon account. I have copied and pasted below a table that covers our earnings to date (Sorry it is so big). Would it be possible for me to place a thank you in the next newsletter. Total earnings to date £215.44."

1 February 2013 to 30 April 2014

	Items Dispatched	Revenue	Earnings
Total Amazon.co.uk Items Dispatched	103	GBP 2,078.16	GBP 86.52
Total Third Party Items Dispatched 	123	GBP 2,643.47	GBP 128.92
Total Items Dispatched	226	GBP 4,721.63	GBP 215.44
Total Items Returned	0	GBP 0.00	GBP 0.00
Total Refunds	0	GBP 0.00	GBP 0.00
TOTAL ADVERTISING FEES	226	GBP 4,721.63	GBP 215.44

A big thank you from Mark (see above) to everyone who remembers to do this. It really is worthwhile as you can see.

Reminder.....

So please don't forget if you are ordering from Amazon do it through our website. Mark has kindly set up the link to follow – this earns us commission!!

<http://www.chesterfield-as.org.uk/>

Things to see in June

Noctilucent cloud season is now underway. They can be typically seen low down in the northwest a couple of hours after sunset and a low down in the northeast couple of hours before sunrise.

Saturday 7th Look out for the waxing gibbous Moon (70% lit). It is just 2.5° below mag. -0.4 Mars in Virgo.

Friday 13th Catch the full Moon rising in the southeast around 22:00 BST and see if it exhibits the Moon illusion for you. This is an effect that makes the rising Moon look much larger than it actually is.

Tuesday 17th Mag. +7.8 comet C/2012 K1 PANSTARRS is extremely close to mag. +4.5 star 21 Leonis Minoris in the early house. At this brightness the comet should be a binocular target. Both comet and star are low in the northwest around 01:00 BST.

Saturday 21st At around 02:00 BST the centre of the waning crescent Moon's (36% lit) disc will be just over 40 arcminutes north of mag. +5.9 Uranus.

The June solstice occurs at 11:51 BST.

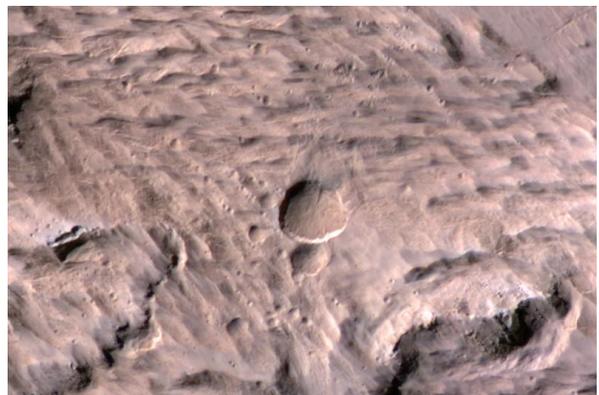
Tuesday 24th This one is for early risers and dawn noctilucent cloud hunters. Low in the east-northeast before sunrise there is a lovely pairing between the waning crescent Moon (10% lit) and mag. -3.8 Venus.

Saturday 28th One of the most recognizable asterisms in the entire sky is now coming to prominence. The Summer Triangle. This is made up of bright stars Deneb, Vega and Altair, the alpha stars of Cygnus, Lyra and Aquila. Look for it just east of south at 01:00 BST.

ASTROSTUFF

NASA Mars weathercam helps find big new crater

Researchers have discovered on the Red Planet the largest fresh meteor-impact crater ever firmly documented with before-and-after images. The images were captured by NASA's Mars Reconnaissance Orbiter.



The crater spans half the length of a football field and first appeared in March 2012. The impact that created it likely was preceded by an explosion in the Martian sky caused by intense friction between an incoming asteroid and the planet's atmosphere. This series of events can be likened to the meteor blast that shattered windows in Chelyabinsk, Russia, last year. The air burst and ground impact darkened an area of the Martian surface about 5 miles (8 kilometers) across.

The darkened spot appears in images taken by the orbiter's weather-monitoring camera, the Mars Colour Imager (MARCI). Images of the site from MARCI and from the two telescopic cameras on Mars Reconnaissance Orbiter are at: <http://go.usa.gov/8KgJ>

Since the orbiter began its systematic observation of Mars in 2006, scientist Bruce Cantor has examined MARCI's daily global coverage, looking for evidence of dust storms and other observable weather events in the images. Cantor is this camera's deputy principal investigator at Malin Space Science Systems, the San Diego company that built and operates MARCI and the orbiter's telescopic Context Camera (CTX). Through his careful review of the images, he helps operators of NASA's solar-powered Mars rover, Opportunity, plan for weather events that may diminish the rover's energy. He also posts weekly Mars weather reports. About two months ago, Cantor noticed an inconspicuous dark dot near the equator in one of the images. "It wasn't what I was looking for," Cantor said. "I was doing my usual weather monitoring and something caught my eye. It looked usual, with rays emanating from a central spot."

He began examining earlier images, skipping back a month or more at a time. The images revealed that the dark spot was present a year ago, but not five years ago. He homed in further, checking images from about 40 different dates, and pinned down the date the impact event occurred; the spot was not there up through March 27, 2012, and then appeared before the daily imaging on March 28, 2012.

Once the dark spot was verified as new, it was targeted last month by CTX and the orbiter's sharpest-sighted camera, the High Resolution Imaging Science Experiment (HiRISE). Of the approximately 400 fresh crater-causing impacts on Mars that have been documented with before-and-after images, this is the only one discovered using a MARCI image, rather than an image from a higher-resolution camera.

CTX has imaged nearly the entire surface of Mars at least once during the orbiter's seven-plus years of observations. It had photographed the site of this newly-discovered crater in January 2012, prior to the impact. Two craters appear in the April 2014 CTX image that were not present in the earlier one, confirming the dark spot revealed by MARCI is related to a new impact crater. HiRISE reveals more than a dozen smaller craters near the two larger ones seen in the CTX image, possibly created by chunks of the exploding asteroid or secondary impacts of material ejected from the main craters during impact. It also reveals many landslides that darkened slopes in the 5-mile surrounding area. A second HiRISE image in May 2014 added three-dimensional information.

"The biggest crater is unusual, quite shallow compared to other fresh craters we have observed," said HiRISE Principal Investigator Alfred McEwen of the University of Arizona, Tucson.

The largest crater is slightly elongated and spans 159 by 143 feet (48.5 by 43.5 meters). McEwen estimates the impact object measured about 10 to 18 feet (3 to 5 meters) long, which is less than a third the estimated length of the asteroid that hit Earth's atmosphere near

Chelyabinsk. Because Mars has much less atmosphere than Earth, space rocks of comparable size are more likely to penetrate to the surface of Mars and cause larger craters. "Studies of fresh impact craters on Mars yield valuable information about impact rates and about subsurface material exposed by the excavations," said Leslie Tamppari, deputy project scientist for the Mars Reconnaissance Orbiter mission at NASA's Jet Propulsion Laboratory in Pasadena, California. "The combination of HiRISE and CTX has found and examined many of them, and now MARCI's daily coverage has given great precision about when a significant impact occurred."

NASA is developing concepts for its asteroid initiative to redirect a near-Earth asteroid - possibly about the size of the rock that hit Mars on March 27 or 28, 2012 - but much closer to Earth's distance from the sun. The project would involve a solar-powered spacecraft capturing a small asteroid or removing a piece of a larger asteroid, and redirecting it into a stable orbit around Earth's moon.

Astronauts will travel to the asteroid aboard NASA's Orion spacecraft, launched on the agency's Space Launch System rocket, to rendezvous with the captured asteroid. Once there, they would collect samples to return to Earth for study. This experience in human spaceflight beyond low-Earth orbit will help NASA test new systems and capabilities needed to send astronauts to Mars in the 2030s.

FUN STUFF

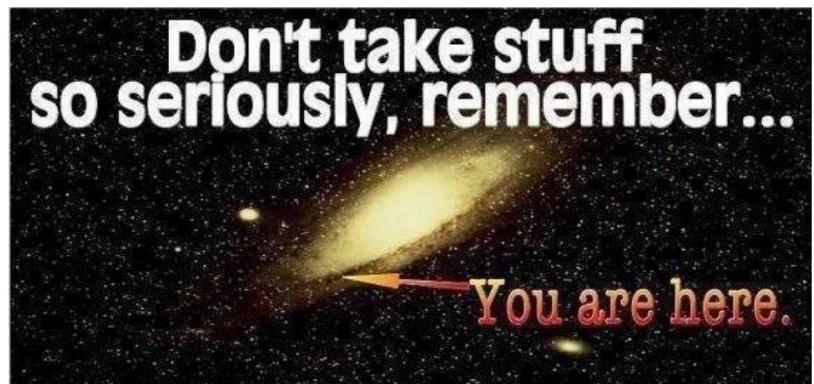
Meanwhile in Essex a wife texts her husband on a cold winter's morning:
"Windows frozen, won't open, I don't know what to do".

"Husband texts back:
"Gently pour some lukewarm water over it, give it a few minutes and try again".

Wife texts back five minutes later:
"Computer really b*****d now!"

That's all folks.

Sue



This newsletter is sent out to all present members without whom the Society could not survive. Also to previous members and people with an interest in astronomy in the hope that they may wish to join/re-join the Society.

If you no longer wish to receive this newsletter by e-mail please let us know. Thank you.