Forthcoming NVAS Society Meetings

Friday 1st February: Star Night Observing Session from 8pm onwards. To check that conditions will permit observing and that the session is going ahead, please check our Twitter feed from 6.30 on the evening.

Monday 4th February: Clubnight - including the monthly sky guide plus a chance to share your recent observations with your fellow members. Contributions welcome from all members.

Friday 8th February: Star Night Observing Session from 8pm onwards. To check that conditions will permit observing and that the session is going ahead, please check our Twitter feed from 6.30 on the evening.

Friday 15th February: Star Night Observing Session from 8pm onwards. To check that conditions will permit observing and that the session is going ahead, please check our Twitter feed from 6.30 on the evening.

Monday 18th February: Guest Speaker Professor John Bridges will be updating us on the ‘Mars Science Laboratory’. £3 admission.

Friday 22nd February: Star Night Observing Session from 8pm onwards. To check that conditions will permit observing and that the session is going ahead, please check our Twitter feed from 6.30 on the evening.

All meetings and observing sessions are held at Chelveston Village Hall, Caldecott Road, Chelveston NN9 5AT

Note: Occasionally, it may be necessary to alter the speakers and or subjects at short notice. Where this is the case details will be posted on our website, Twitter and Facebook accounts.

Society Officers

Chair: Peta Jellis e-mail: enquiries@neneastro.org.uk

Events Co-ordinator: Kevin Burton e-mail: events@neneastro.org.uk

Membership Secretary: Paul Blackman e-mail: membership@neneastro.org.uk

Treasurer: David Jones

Web Site Editor: Tony Stock e-mail: webmaster@neneastro.org.uk

Newsletter: Steve Williams e-mail: newsletter@neneastro.org.uk

Refreshments: Alec Parker

Follow The Nene Valley Astronomical Society on Twitter and like us on Facebook!

Northamptonshire’s Free To Join Astronomical Society
January Lecture Meeting

At our meeting on 7th January, we were delighted to welcome back Dr. Nick Hewitt with a presentation entitled ‘Neighbours - An Introduction To Our Local Group Of Galaxies’. Nick who is section president of the Astronomy Section of the Northamptonshire Natural History Society and has been a leading light in the British Astronomical Association for over thirty years.

Nick told us about our galaxy and its relationship with our largest neighbour, M31 the Andromeda Galaxy. Our two nearest companion galaxies the large and small magellanic clouds were discussed as was the evidence of our galaxy having previously devoured other earlier companion galaxies.

Our local group of galaxies currently contains at least 54 galaxies and although most are dwarf types, the fine M33 Triangulum galaxy is the third largest (after M31 and the Milky Way).

Nick described how we could go about observing many of these galaxies and showed images that he had secured both locally and by using robotic telescopes.

Nick concluded his presentation by showing a dramatic video simulating the upcoming merger of our galaxy and M31.

Practical Astronomy Show - Saturday 9th March

Elsewhere in this edition of the Stargazer you will find details of the first Practical Astronomy Show taking place in Kettering on Saturday 9th March. This free event is sure to attract a significant number to view the various trade stands and to attend the lectures.

We’re pleased to announce that the Nene Valley Astronomical Society will be taking an active part in this event and that we’re teaming up with our friends and colleagues from the Astronomy Section of the Northamptonshire Natural History Society to have a joint exhibition stand. Volunteers from within the society are going to be needed on the day itself to look after the stand, if you’d like to volunteer than please let either Peta or Kevin know.

Also, we’d like to show examples of our members work as well, so if you have anything that you think would be suitable for inclusion within our display then please get in contact with Steve.
Society Telescope Evening

Our 21st January meeting saw the society host a telescope evening at Chelveston. Various members and guests brought along their telescopes, with many looking for advice on how to get the most out of them.

Before the evening, our Events Coordinator, Kevin Burton was heard being interviewed on BBC Radio Northampton and local community station Beat Route Radio which helped to attract some guests and visitors along.

On the evening, a variety of telescopes were set up inside the hall ranging from Dobsonians, to equatorial mounted reflectors to computerised go-to ‘scopes. Common questions raised included polar alignment, astro-photography through a telescope and computerised alignment.

Unfortunately, the cloudy sky prevented the telescopes from venturing outside and viewing a celestial object however it was nice to get an opportunity to view the different telescopes that people use.

The evening was very informal and relaxed aided by the welcome refreshments.

Thanks to all who came along and supported the evening, one which we will no doubt be repeating again.

Images: Peta Jellis

Society Announcements

As members may be aware, this April sees the tenth anniversary of the society. Founded in the International Year of Astronomy, our first ever meeting was held at The Friends Meeting House in Wellingborough on 6th April 2009.

To mark this event, it has been proposed that we hold a meal in a local hostelry on a non-meeting Monday evening in April. Peta is currently looking into this and we’ll let you know the details once a date and location is arranged.

Following on from recent discussions, a draft constitution for the society is currently being compiled with the aim of an adoption at our Annual Review Meeting which takes place on Monday 1st April. Further details will be included with next months Stargazer Newsletter.

Thank you to Penny Smith who has recently relocated from the area to Norfolk. Penny has assisted Alec on the refreshment front at meetings for a number of years and has greatly helped out at other events as well including the Stanwick Lakes Stargazing Live events. We wish Penny well on her move to the dark clear skies in Norfolk.
PAS 2019
PRACTICAL ASTRONOMY SHOW
FREE ENTRANCE Saturday 9th March 2019 9:30am - 5pm

FREE* TALKS hosted by Tim Treadwell:
Damian Peach - UK Astrophotographer
Dr Paul Abel - Sky at Night
Paul Money - UK Visual astronomy
Gary Palmer - UK Astrophotographer
Dr Robin Glover - SharpCap PRO software
Niels Haagh - Mount Designer

*One free ticket issued per person, per talk. Tickets available on the day, on a first-come-first-served basis, at the ticket desk.

Vendors:
Altair Astro
365 Astronomy
Astromount UK
Astronomy Now Magazine
Atik Cameras
AWR Technology
BBC Sky at Night Magazine
British Astronomical Association
Celetron - David Hinds
Gary Palmer Astrophotography
Ian King Imaging
656 Imaging
MSG Meteorites
NPAE Precision Astro Engineering
Online Astronomy Society Academy
Orion Optics
Peak2Valley Instruments
Pulsar Observatories
Rother Valley Optics
Saturn Instruments
SharpCap PRO
Spacerocks Meteorites
Star-Gazing
Starlight Xpress CCD
Teleskop-Schutzbauten
Track the Stars Mounts
Tring Astronomy Centre
W&W Astro
Webb Deepsky Society
Widescreen Centre

Venue:
Kettering Conference Centre, Thurston Drive, Kettering, Northamptonshire, NN15 6PB

@practicalastroshow @astroshow1
www.practicalastroshow.com
New Horizons' Newest and Best-Yet View of Ultima Thule

The wonders – and mysteries – of Kuiper Belt object 2014 MU69 continue to multiply as NASA's New Horizons spacecraft beams home new images of its New Year's Day 2019 flyby target. This image, taken during the historic Jan. 1 flyby of what's informally known as Ultima Thule, is the clearest view yet of this remarkable, ancient object in the far reaches of the solar system – and the first small "KBO" ever explored by a spacecraft.

Obtained with the wide-angle Multicolour Visible Imaging Camera (MVIC) component of New Horizons' Ralph instrument, this image was taken when the KBO was 4,200 miles (6,700 kilometres) from the spacecraft, at 05:26 UT (12:26 a.m. EST) on Jan. 1 – just seven minutes before closest approach. With an original resolution of 440 feet (135 meters) per pixel, the image was stored in the spacecraft's data memory and transmitted to Earth on Jan. 18-19. Scientists then sharpened the image to enhance fine detail. (This process – known as de convolution – also amplifies the graininess of the image when viewed at high contrast.)

The oblique lighting of this image reveals new topographic details along the day/night boundary, or terminator, near the top. These details include numerous small pits up to about 0.4 miles (0.7 kilometres) in diameter. The large circular feature, about 4 miles (7 kilometres) across, on the smaller of the two lobes, also appears to be a deep depression. Not clear is whether these pits are impact craters or features resulting from other processes, such as "collapse pits" or the ancient venting of volatile materials.

Both lobes also show many intriguing light and dark patterns of unknown origin, which may reveal clues about how this body was assembled during the formation of the solar system 4.5 billion years ago. One of the most striking of these is the bright "collar" separating the two lobes.

"This new image is starting to reveal differences in the geologic character of the two lobes of Ultima Thule, and is presenting us with new mysteries as well," said Principal Investigator Alan Stern, of the Southwest Research Institute in Boulder, Colorado, "Over the next month there will be better colour and better resolution images that we hope will help unravel the many mysteries of Ultima Thule."

Image credit: NASA/Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute
NASA's Hubble Space Telescope has produced this stunningly detailed portrait of the Triangulum galaxy (M33), displaying a full spiral face aglow with the light of nearly 25 million individually resolved stars. It is the largest high-resolution mosaic image of Triangulum ever assembled, composed of 54 Hubble fields of view. The cropped image above spans an area about 14,500 light-years across.

The Local Group of galaxies is dominated by the Milky Way, Andromeda and Triangulum. As the junior member of this trio of spiral galaxies, Triangulum provides the valuable comparisons and contrasts that only a close companion can. Most notably, Triangulum's star formation is 10 times more intense than in the comparable Hubble panorama of the neighbouring Andromeda galaxy.

"My first impression on seeing the Hubble images was, wow, that really is a lot of star formation," said astronomer Julianne Dalcanton of the University of Washington in Seattle, who led the project. Astronomers have only begun to mine the enormous amount of data generated by these new Hubble observations, and expect they will yield important insights into the effects of such vigorous star formation.

The orderly nature of Triangulum's spiral, with dust distributed throughout, is another distinctive feature. Astronomers think that Triangulum has been an introvert, avoiding disruptive interactions with other galaxies, instead spending the eons tending its well-ordered spiral and turning out new generations of stars. Further research may determine if Triangulum is actually a newer member of the Local Group of galaxies, and perhaps its quiet days will soon be over.

Uncovering the Triangulum galaxy's story will provide an important point of reference in understanding how galaxies develop over time, and the diverse paths that shape what we see today.
Generated using Stellarium (Stellarium.org), the above starmap shows how the evening night sky will look on February 1st at 10pm, February 15th at 9pm and February 28th at 8pm.

Lying due south on a mid-February evening lies the brightest night-time star (from the UK), Sirius in the constellation of Canis Major, Orion's largest hunting dog. Situated just over eight light years from us, placing it as the seventh closest star to us, shining at a dazzling magnitude -1.46. Using binoculars, move directly south of Sirius and you'll be able to pick up the open star cluster M41. At magnitude 4.5, M41 contains around a hundred stars with some being red giants.

High up above the southern half of the sky is the zodiacal constellation of Gemini with the two first magnitude stars Castor and Pollux. From a dark site, the winter Milky Way is a truly spectacular sight, stretching from Gemini down towards the south-east and through Auriga, Perseus and Cassiopeia in the north-west.

Moving round towards the east, our attention is drawn to the constellations of Cancer and Leo. The former containing another couple of open clusters for binocular observers, M67 and the more famous M44, the 'beehive' cluster. Moving to Leo, a range of galaxies are tempting for those who like looking at more distant objects - M65, M66, M95 and M96.

The galaxies M81 and M82 in Ursa Major are also at a nice observable altitude on a February evening.
Sky Guide - February 2019

New Moon On 4th February
Full Moon On 19th February

Catch Elusive Mercury In The Evening

Mercury puts on its best appearance of the year in the evening sky this month. After passing through superior conjunction at the end of last month, Mercury will become visible low above the west-southwestern horizon from mid-February onwards. Of course a clear, unobstructed horizon in this direction will be needed - start looking around 30 minutes after sunset at about five degree elevation for magnitude -1 Mercury. Greatest eastern elongation is reached on February 27th, when the planet will be approximately ten degrees high 30 minutes after sunset.

Mars Fades But Well Placed In The Evening

Mars is an evening sky object in the south-western sky amongst the faint stars of Pisces. It’s tiny six arc second diameter disc shining at magnitude +1. The waxing crescent Moon passes below Mars on the evening of February 10th. Additionally keep an eye out on the evenings of February 12th and 13th as Mars passes within a degree of Uranus offering an easy way to spot this distant world.

The Icy Giants

Neptune lies in the constellation of Aquarius, very low down in the south-western evening sky. To all intents and purposes it is now pretty much lost to view as it heads towards solar conjunction at the beginning of next month.

Uranus remains visible in the south-western evening sky in Pisces at magnitude +5.8. As already mentioned, its main attraction this month is it’s meeting with Mars.

Jupiter Begins To Dominate The Morning

Jupiter rises around 4.30am at the start of February and despite it’s low appearance in the south-eastern pre-dawn sky is now offering a window of observation before the sky brightens. The equatorial region has noticeably darkened over the last few months and it will be interesting to see how this develops over the coming weeks. The waning crescent Moon will pass nearby on the mornings of February 27th and 28th.

Saturn Re-emerges

Saturn rises in the south-eastern morning twilight just before 6.30am at the start of February and will be up before 5am by the end of month. Saturn is however amongst the stars of Sagittarius, so telescopic viewing this month will be extremely challenging!

Venus Bright, But Low In The Morning

After being the dominant planet in the south-eastern morning sky over recent months, Venus appears much lower down this month. Rising just after 5am throughout the month, Venus appears just above Saturn on the mornings around February 18th as the below Stellarium shot shows.

International Space Station

Passes of the International Space Station are visible in the evening sky from the start of February up until the 10th.

Morning passes begin from February 24th onwards.

As ever, timings can be obtained from various apps or from web sites such as heavens-above.com

Contributions for future editions of the Stargazer Newsletter are welcomed. Observations, reports and articles on an astronomical theme can be forwarded to Steve Williams at newsletter@neneastro.org.uk

The Nene Valley Astronomical Society
Stargazer Newsletter Is Compiled & Published By Steve Williams.