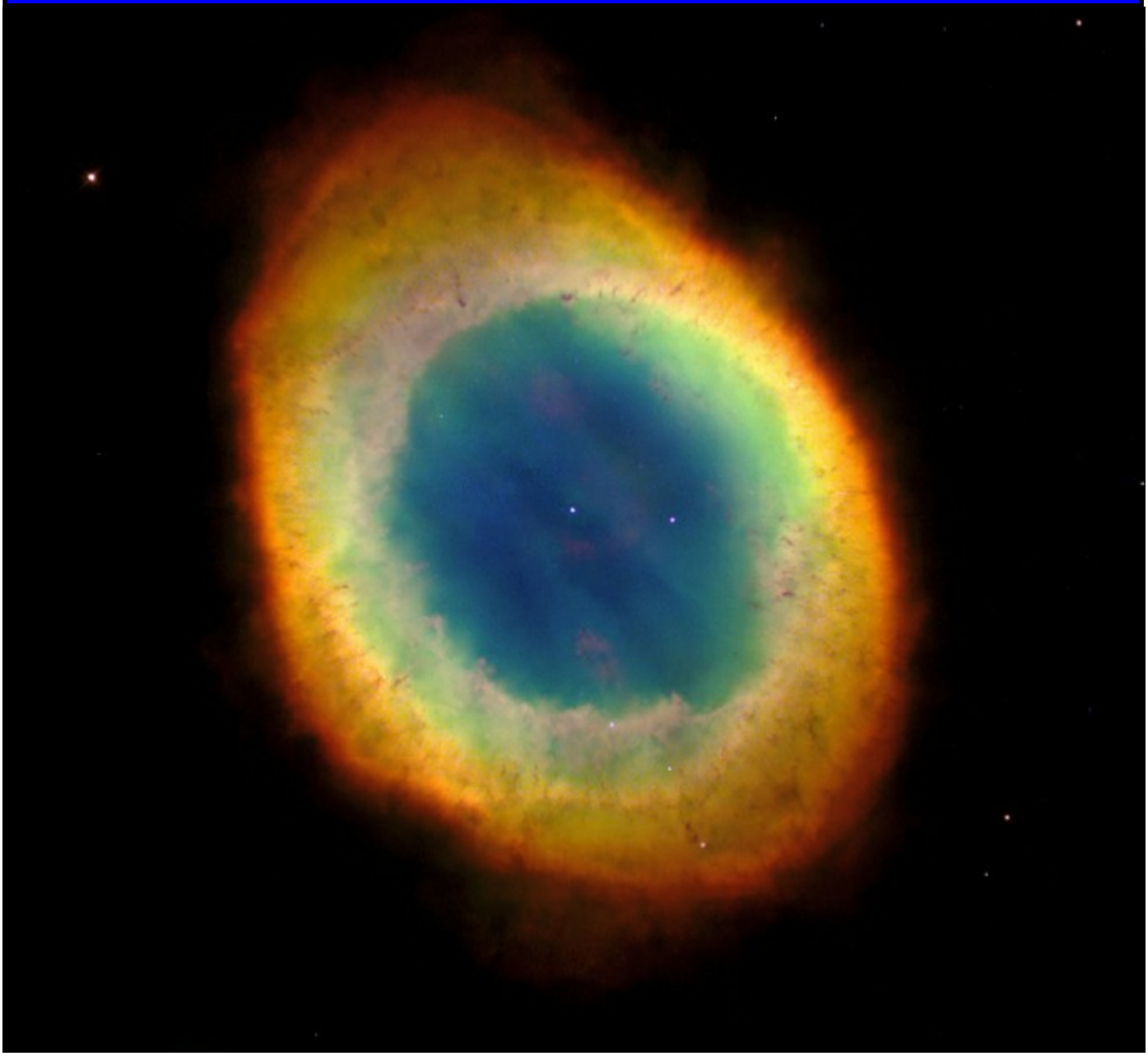
Nene Valley Astronomical Society

Stargazer Newsletter

July 2023

neneastro.org.uk



The famed Ring Nebula - M57 in the constellation of Lyra

Image: Hubble Space Telescope

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

Northamptonshire's Free To Join Astronomical Society

Forthcoming Society Meetings

Monday 3rd July

Solar Observing & Club Night Meeting. If conditions permit, we'll carry out some solar observing so feel free to bring along your observing equipment! Steve Williams will also be guiding us around 'The Summer Sky'.

Chelveston Village Hall, Caldecott Road, Chelveston NN9 5AT at 8pm. Admission £3.

Monday 17th July

Jerry Workman FRAS returns to the society to speak to us about 'The Moon'.

Chelveston Village Hall, Caldecott Road, Chelveston NN9 5AT at 8pm. Admission £5.

Friday 11th August

Perseid Observing Evening. Join us at Chelveston Village Hall from 9.30pm onwards to view the Perseid meteors as they near their maximum. Bring a reclining chair and refreshments.

To confirm that conditions will permit observing, please check our Twitter feed from 7.30pm on the evening. Note that we will not have access to the inside of the hall.

Due to Summer Holidays, we will not be holding either a Club Night or Speaker meeting during August.

Our only event during August will be the Perseid Observing Evening.

Regular meetings will recommence in September.

Society Officers

Vice-Chair: Steve Williams

Secretary: Kevin Burton e-mail: events@neneastro.org.uk

Events Co-ordinator: John Wynn-Werninck

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

Treasurer: David Jones

Web Site / Stargazer Editor: Steve Williams e-mail: newsletter@neneastro.org.uk

Committee Member & Refreshments: Alec Parker

Hubble Views

The jellyfish galaxy JO206 trails across this image from the NASA/ESA Hubble Space Telescope, showcasing a colourful star-forming disk surrounded by a pale, luminous cloud of dust. A handful of foreground bright stars with crisscross diffraction spikes stands out against an inky black backdrop at the bottom of the image. JO206 lies over 700 million light-years from Earth in the constellation Aquarius.

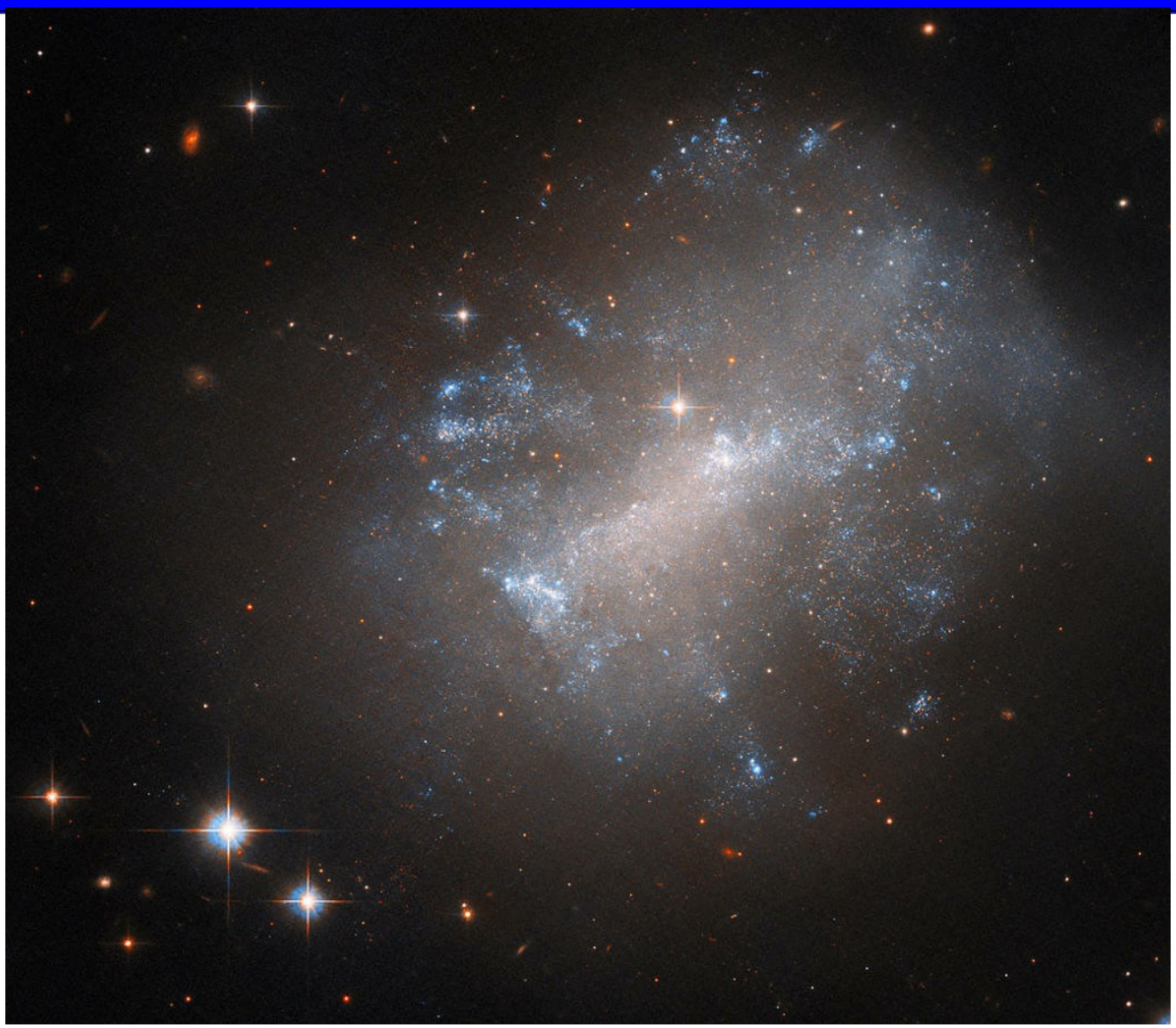
Jellyfish galaxies are so-called because of their resemblance to their aquatic namesakes. In the bottom right of this image, long tendrils of bright star formation trail the disk of JO206, just as jellyfish trail tentacles behind them. The tendrils of jellyfish galaxies are formed by the interaction between galaxies and the intra-cluster medium, a tenuous superheated plasma that pervades galaxy clusters. As galaxies move through galaxy clusters, they ram into the intracluster medium, which strips gas from the galaxies and draws it into the long tendrils of star formation.

The tentacles of jellyfish galaxies give astronomers a unique opportunity to study star formation under extreme conditions, far from the influence of the galaxy's main disk. Surprisingly, Hubble revealed that there are no striking differences between star formation in the disks of jellyfish galaxies and star formation in their tentacles, which suggests the environment of newly formed stars has only a minor influence on their formation.

Text credit: European Space Agency (ESA)

Image credit: ESA/Hubble & NASA, M. Gullieuszik and the GASP team

Hubble Views



The galaxy NGC 7292 billows across this image from the NASA/ESA Hubble Space Telescope, accompanied by a handful of bright stars and the indistinct smudges of extremely distant galaxies in the background. It lies around 44 million light-years from Earth in the constellation Pegasus.

This galaxy is irregular, meaning that it lacks the distinct spiral arms or elliptical shape of some galaxies. Unusually, its core is stretched out into a distinct bar, a feature seen in many spiral galaxies. Alongside its hazy shape, NGC 7292 is remarkably faint. As a result, astronomers classify NGC 7292 as a low surface brightness galaxy, barely distinguishable against the backdrop of the night sky. Such galaxies are typically dominated by gas and dark matter rather than stars.

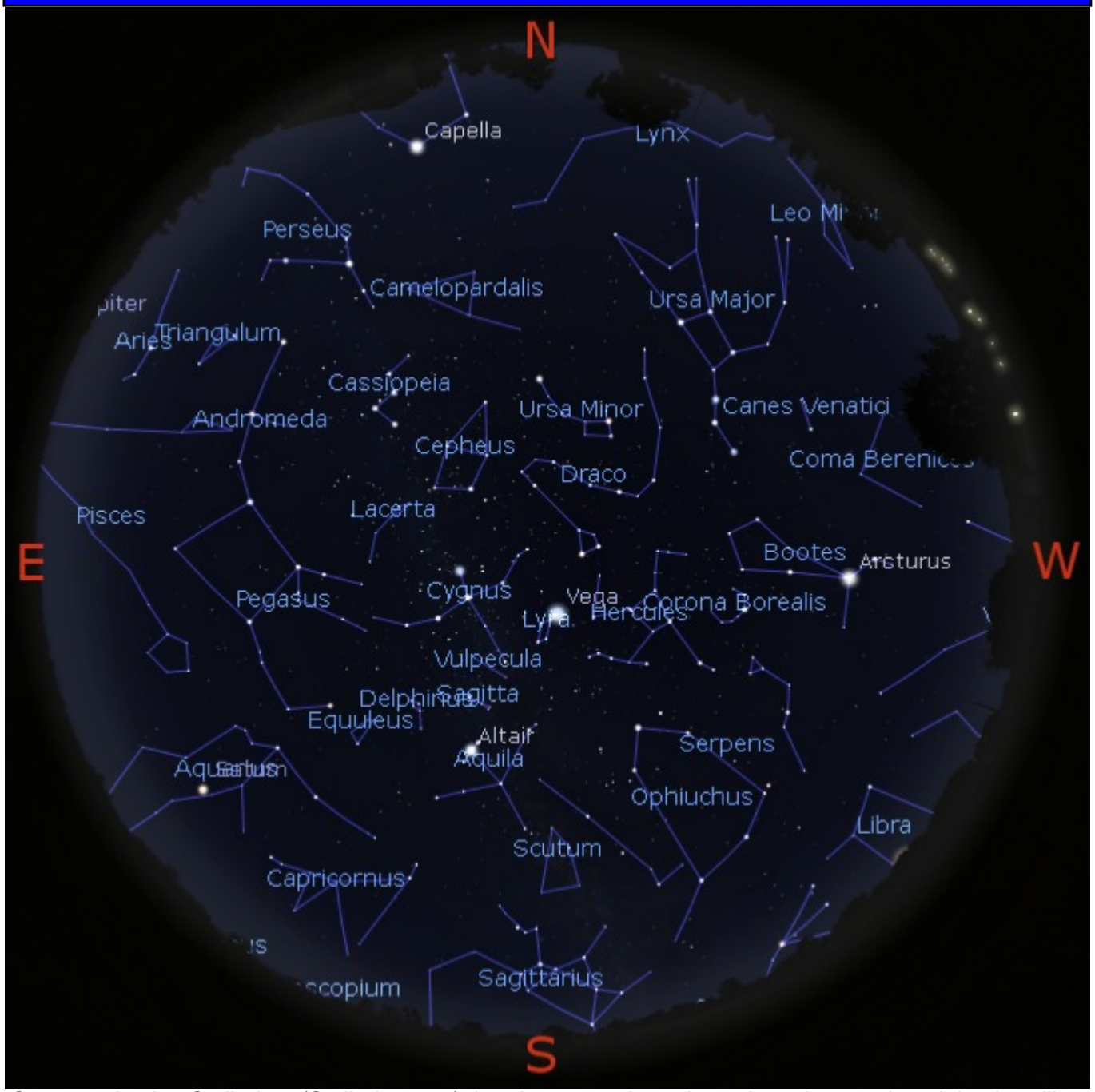
Astronomers directed Hubble to inspect NGC 7292 during an observational campaign that scrutinized the aftermath of Type II supernovae to learn more about their diversity. These colossal explosions happen when a massive star collapses and then violently rebounds in a catastrophic explosion that tears the star apart.

Astronomers observed NGC 7292's supernova in 1964 and named it SN 1964H. Studying the stellar neighborhood of SN 1964H helps astronomers estimate the initial mass of the star that went supernova. Observations could help uncover surviving stellar companions that once shared a system with the star that became SN 1964H.

Text credit: European Space Agency (ESA)

Image credit: ESA/Hubble & NASA, C. Kilpatrick

Nene Valley Night Sky - July 2023



Generated using Stellarium (Stellarium.org),the above starchart shows how the evening night sky will look on July 1st at 1am, July 15th at mid-night and July 31st at 11pm.

As we start July, we remain under astronomical twilight all night, meaning that the sky continues not to full darken. By the third week of the month, however true astronomical darkness returns at our latitude marking the start for many of a new observing season.

At the time of our chart, Saturn can be found low down towards the south-east, its distinctive cream colour making it stand out in an otherwise barren part of the sky for bright stars. Jupiter will rise into the north-east in the small hours.

Our July sky is dominated by the famed asterism of the 'Summer Triangle', with the Milky Way tracking southwards from Cygnus into it's heartland in Sagittarius. The moonless period in the third week of July will offer a good chance to enjoy our galaxy's numerous star cluster and dark nebulae through a pair of binoculars. A good clear southern horizon and a view away from light pollution will naturally offer the best view, but with even a pair of binoculars it is still surprising what can be seen from a town.

The great square of Pegasus is already dominating the eastern quadrant of the sky, bringing with it the constellations of Andromeda, Perseus and Pisces

Steve Williams

Nene Valley Night Sky - July 2023

Full Moon: 3rd July

New Moon: 17th July

The Sun: Has continued to show a high level of activity over the last month, with a number of complex sunspot groups visible for observers using either a white light filter or solar projection. As our stellar neighbour remains high in the sky over the coming weeks, we should still be able to enjoy some excellent views. The site spaceweather.com contains a daily image in visible light as well as other wavelengths and is a good resource if you want a quick update on current solar activity at your fingertips.

Mercury: The innermost remains lost in the solar glare throughout July and will not be visible.

Venus is visible low above the western horizon, in the twilight, for a short while immediately after sunset for the first half of the month. This evening apparition of our neighbouring planet is now drawing to an end as Venus heads towards Inferior Conjunction on 13th August, thereafter re-appearing as a pre-dawn object.

Mars is also now at the end of it's current apparition in the evening sky. If you have a clear western horizon, then you may be able to spot it passing very close to Regulus in Leo between the 8th and 11th July. Mars is now at a rather paltry magnitude 1.8 and sets around 10.30pm mid-July.

Jupiter is a morning sky object. It rises at 1am in mid-July and reaches an altitude of ten degrees in the East around an hour later. Best views will be had in the period shortly before dawn, when the planet is highest in the south-east. At magnitude -2.2, Jupiter lies amongst the stars of Aries.

Saturn lies further to the west of Jupiter in the constellation of Aquarius and is the best placed planet for observing during July. Rising at 11pm during mid-July, the planet is currently best observed during the small hours of the morning, although visibility will improve further as we go through late July and into August. The angle of the ring system is now much reduced as we continue to move towards the next ring plane crossing in a couple of years time. The Moon passes to the south of Saturn on the morning of 7th July.

Right: Saturn and the Moon meet up on the morning of 7th July (Stellarium Image)

Uranus lies amongst the stars of Aries, rising just after 1am during mid-July. At magnitude 5.8, it is best observed during the hour of so leading up to the onset of dawn.

Neptune can be found amongst the stars of Pisces. Rising at 11.30pm during mid-July, this distant world, at magnitude 7.9 is again best seen in the hour or so leading up to the onset of dawn.

International Space Station with the long period of twilight during July has a number of viewing opportunities in both the late evening and early morning hours. One of the many available online apps will give more specific dates and times as to when it can be seen.

July Meteor Showers: As many observers await the annual return of next month's Perseid meteors, July offers the chance to lie back and enjoy a couple of 'warm up' meteor showers. The Alpha Capricornids and Southern Delta Aquarids both reach maximum at the end of the month. The Alpha Capricornids are the weaker of the two, but are renowned for bright, slow moving meteors, whilst the Southern Delta Aquarids reach maximum on 31st July with a ZHR of 20. These tend to have more fainter meteor's so may well struggle with the bright Moon right at the end of the month. Radiants for both of these meteor showers lie low to the south and will be best observed in the pre-dawn hours.

Noctilucent Clouds: Do not appear to have been visible for many nights so far this summer. Still worth keeping an eye out around to the North throughout July and see if you can observe them.