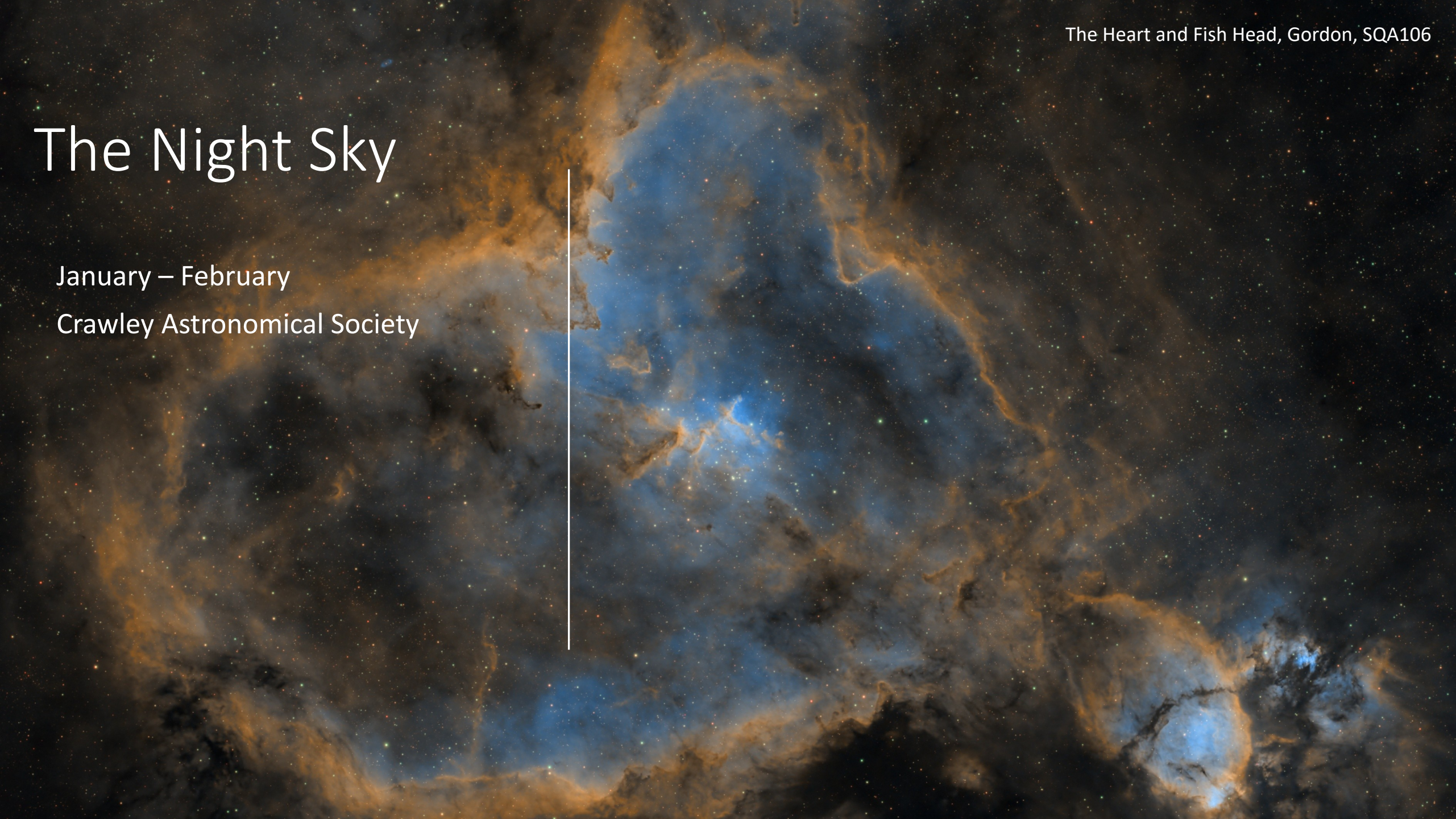


The Heart and Fish Head, Gordon, SQA106

The Night Sky

January – February

Crawley Astronomical Society

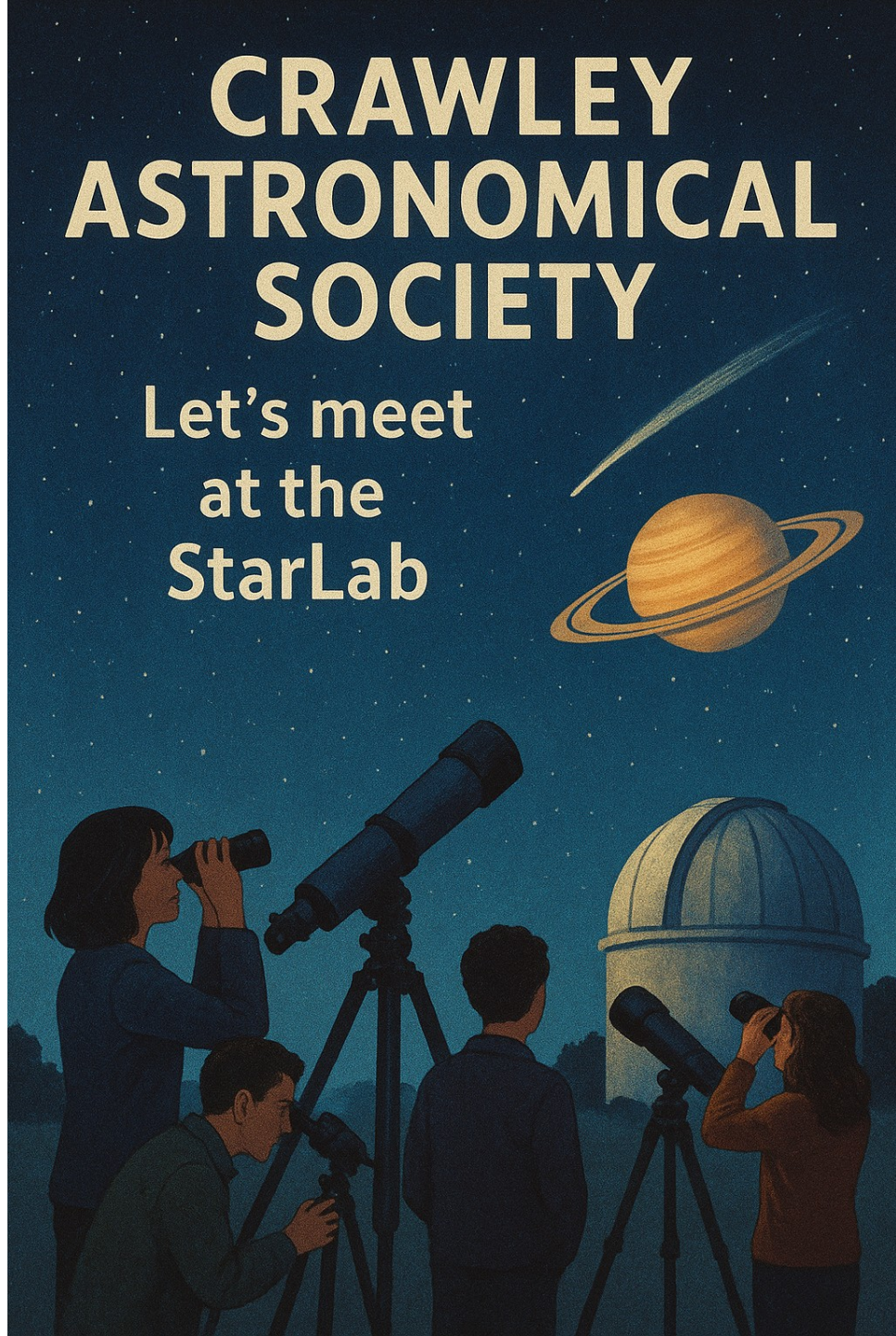
CAS Workshops 2025-26

- ✓ 12th September: processing images from smart telescopes
- ✓ 10th October: choosing a first telescope
- ✓ 14th November: filters in visual and imaging astronomy
- ✓ 5th December: guiding
- ✓ 9th January: image processing with Siril
- 13th Feb: mono cameras (postponed)
- 27th March: servicing a mount (face to face)
- 24th April: using masks in image processing
- 22nd May: NINA
- 12th June: different types of reflectors, pros and cons (SCT, RASA, RC, Mak, Newton)



Outreach – 2026 plan

- January – sun observation – Saturday 13th January
- 23rd January – Night sky observation at the StarLab
- 24th January – Science Festival at the Caterham school
- 27th February – location TBC
- 16th May – STEM in the Park – Crawley
- 12th August – Solar Eclipse – Tillgate park TBC
- Sept – Teide observatory Tenerife??



Astro News





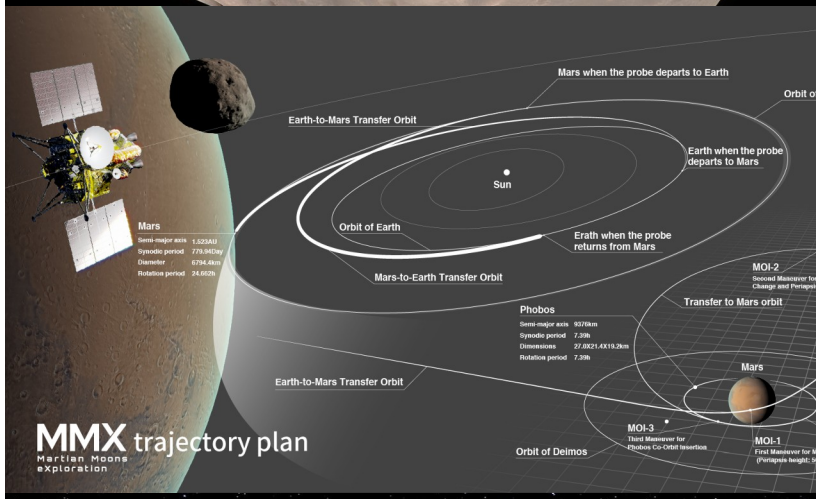
Space back on the agenda!

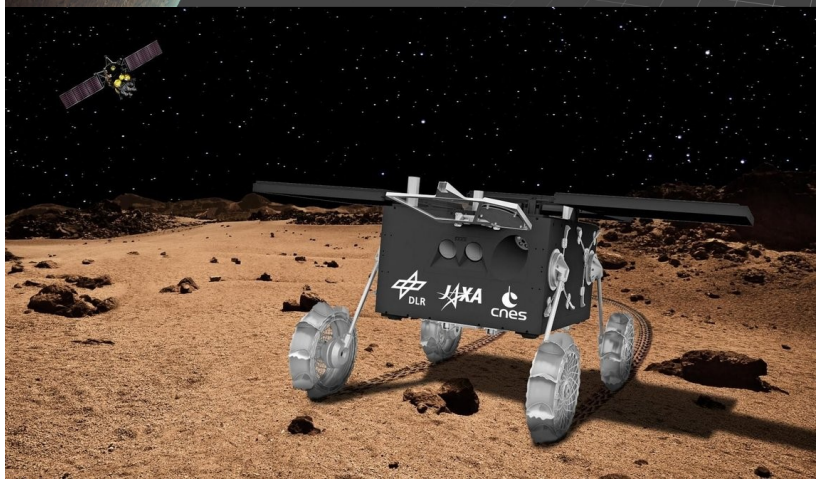
- Artemis 2 – First flight to the Moon for more than 50 years! Launch planned before April 2026
- Bepicolombo: investigating Mercury’s mysteries – Orbit in Nov 2026
- MMX mission to Phobos with the Idefix rover – Launch Dec 2026
- First launch of the European Maia reusable launcher
- Plato scope, the Terrestrial planet hunter – launch End of the Year
- Hera will perform a detailed post-impact survey of the target asteroid, Dimorphos following the Dart experiment – Arrival in Dec 2026
- Chang’e 7: Chinese space race to the Moon – Mission to the South Pole
- Xuntian, a new space telescope, similar in size to Hubble with a much bigger FOV
- Tianwen-2 will gather surface specimens from 469219 Kamoʻoalewa, a near-Earth object in a similar orbit to ours – Arrival July 2026
- ESA budget up by 30%!

MMX Mission to Phobos

- JAXA mission to explore Phobos (and Deimos)
- Goal: understand the origin of Mars' moons
- First sample return from a Martian moon
- Orbiter + small rover + sample return to Earth
- IDEFIX: ESA/DLR-built micro-rover deployed on Phobos
- Demonstrates mobility and operations in very low gravity
- Launch 2026, landing on Phobos in 2028/29, return ~2031







2025, a plentiful year for astronomers!





- Discovery of Interstellar Comet 3I/ATLAS
- “Cloud 9”: New type of cosmic structure
- First all-sky infrared map from SPHEREx released
- Early Universe supernova record
- Rubin Observatory sky survey begins
- Evidence of "Weakening" Dark Energy: new data from the Dark Energy Spectroscopic Instrument (DESI) suggested that dark energy might not be a constant force.
- The Most Massive Black Hole Collision

January – February Sky Diary

- Milky Way season – opportunity to image nebulae –Cassiopea, Perseus, Orion, Gemini
- Full Moon 1st February, known as the Snow Moon (Farmer's Almanac)
- New moon 18th January then 17th February
- Saturn visible in the evening towards the west
- Jupiter visible all night, opposition 10th January 2026
- Feb – March: 5 planets visible!
- **12th August: Total solar eclipse, 91% partial in the UK!**



18th January 8.00pm

Visual Observation Recommendations Naked-eye

- The Orion Constellation
  - Betelgeuse (orange), Rigel and the Orion's Belt
- Taurus and Aldebaran
  - Aldebaran glows orange
- Auriga, with the Star Capella
- Gemeni
  - Castor & Pollux



Visual Observation Recommendations Binoculars

- Rosette Nebula region (without filter): The surrounding star field is attractive even if the nebula itself is subtle.
- The Hyades Cluster
- Kemble’s Cascade (in Camelopardalis)
  - A beautiful line of stars about 2.5° long, ideal for binocular sweeps.
  - Ends at open cluster NGC 1502



Visual Observation Recommendations Small Telescope

- M42 – The Orion Nebula
- Challenge: observe visually M1, the Crab Nebula!!, remnant of the supernova of 1054 recorded by Chinese astronomers
- Eskimo Nebula (NGC 2392), a small but bright planetary nebula in Gemini.



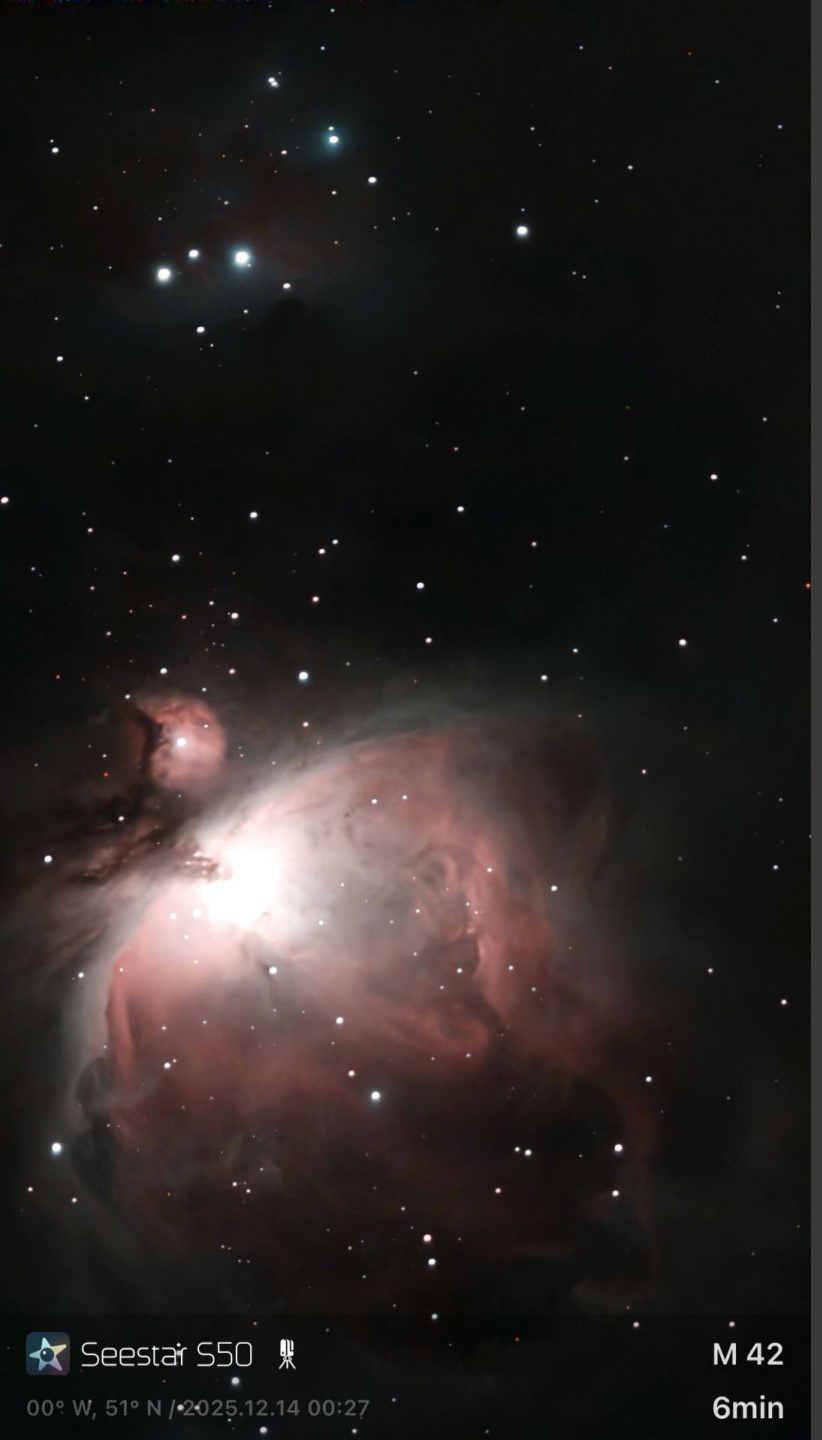
Auriga, Taurus and Gemeni



Focus on member's photos: Kabir

- Jupiter on the 1st Jan
- Edge 8HD





Focus on member's photos: Kevin

- The Orion Nebula
- 6 min!!
- Seestar S50



Focus on member's photos: Brian

- M33
- 750x10s!
- Seestar S50

Focus on member's photos: Nick

- Caldwell 31 (C31) or the Flaming Star Nebula, SH 2-229 is an emission and reflection nebula in the constellation Auriga, surrounding the bluish, irregular variable star AE Aurigae.
- Magnitude +6.0.
- The nebula measures approximately 37.0' x 19.0' and lies about 1,500 light-years away from Earth.
- The nebula is about 5 light-years across.
- SeeStar S50, 67 mins integration, 20 second exposures, EQ mode. SeeStar app denoise and Affinity Photo for finishing.



Focus on member's photos: Ed

- NGC 7635, also known as the Bubble Nebula, Sharpless 162, or Caldwell 11, is an H II region emission nebula in the constellation Cassiopeia.
- Close to the open cluster Messier 52 (top right).
- The "bubble" is created by the stellar wind from a massive hot, 8.7 magnitude young central star, SAO 20575.
- Seestar S50



Focus on member's photos: Gareth

- East Veil Nebula, NGC6992
- Seestar S50 295x10s
- 49min total integration time



Focus on member's photos: Axe

- First light with a 6" Newton f4
- Nexus reducer – corrector, bringing the scope to f3!
- ASI2600MC
- M33, 4 hours integration



Thanks!



The Moon, Gareth, SW80ED