

BBC *WHAT WE DON'T KNOW ABOUT THE UNIVERSE*

#221 OCTOBER 2023

Sky at Night

THE UK'S BEST-SELLING ASTRONOMY MAGAZINE

Astronomy
Photographer
of the Year

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WINNERS
INSIDE!

RING OF FIRE

Discover what's behind the
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A FULL-METAL ASTEROID***

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Astronomy ✖ Photographer of the Year

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BBC Sky at Night Magazine is proud to reveal the 2023 winners of the world's biggest astrophotography competition

Once again, astronomy photographers from around the world have battled it out to claim the prestigious title of Astronomy Photographer of the Year 2023. This year, entrants from 64 countries submitted over 4,000 incredible images. From these, the judges have selected the best in each of eight categories, as well as two special prizes for best newcomer and for processing data taken by professional observatories, as well as a special prize for entrants younger than 16 years old. You can see the spectacular winning photos for yourself at the National Maritime Museum in Greenwich, London from 16 September. For details, visit www.rmg.co.uk/astrophoto.



FREE 2024 CALENDAR

Don't miss the December issue of *BBC Sky at Night Magazine* for our free 2024 calendar featuring all the incredible top images from this year's Astronomy Photographer of the Year competition, as well as all the unmissable astronomical events to see in the night sky in the year ahead. It goes on sale from 16 November 2023.

MORE ONLINE

A gallery of these and more stunning images from the 2023 competition



Watch our Masterclass series on Deep-Sky Imaging to get expert advice on taking great astro images of your own. Tickets start from £15. www.skyatnightmagazine.com/virtual-events

OVERALL WINNER / Galaxies ▷

Andromeda, Unexpected

Marcel Drechsler, Xavier Strottner, Yann Sainty

Location: Near Nancy, France

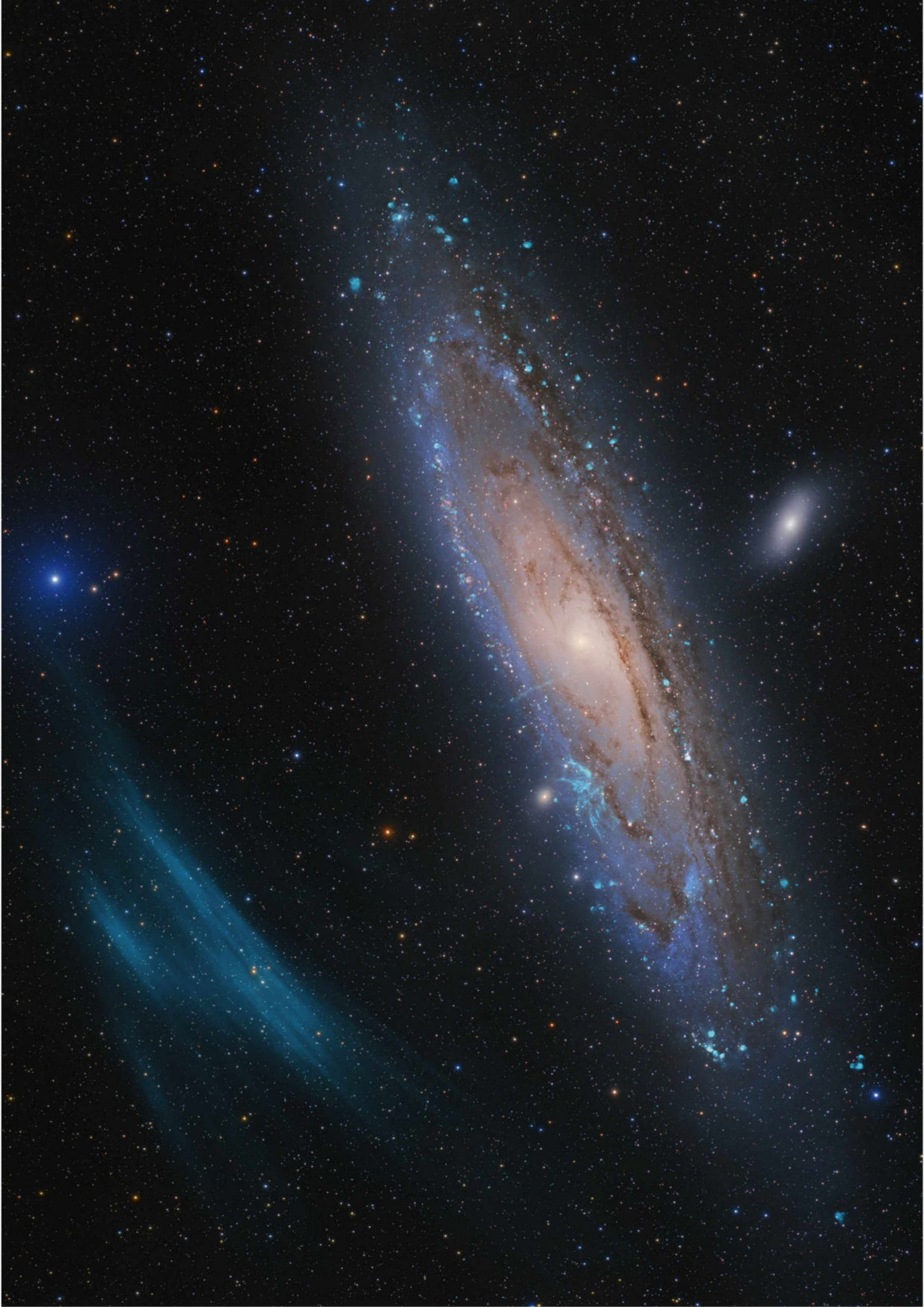
Equipment: Takahashi FSQ-106EDX4 telescope, Sky-Watcher EQ6 Pro mount, ZWO ASI2600MM Pro camera, 382mm f/3.6, 111 hours

When an international team of astronomers joined forces to take this image, none of them were expecting to make a scientific discovery. And yet, their final image revealed a great arc of plasma next to the Andromeda Galaxy, which could be the largest such structure in the nearby Universe.

Judge's verdict: "What does a discovery image look like?"

It is mostly a blurry black and white image that depicts an almost invisible faint dot or a spectrum that is incomprehensible to us. However, that was not the case this time. This astrophoto is as spectacular as it is valuable. It not only presents Andromeda in a new way, but also raises the quality of astrophotography to a new level."

– László Franciscs





△ Our Sun

A Sun Question

Eduardo Schaberger Poupeau

Location: Rafaela, Santa Fe, Argentina

Equipment: Sky-Watcher Evostar 150ED DX refractor, Daystar Quark Chromosphere filter, Baader ERF frontal filter, iOptron CEM70G mount, Player One Apollo-M Max camera, 840mm focal length, 120mm aperture, 2 panels of 115x 3.47 milliseconds

Judge's verdict: "This is such a clever image as, while we have seen the granulation and the surface of the Sun before, I've never seen a filament shaped like a question mark before. If you zoom into the surface of the Sun, the image has a paint-like quality – I feel like I can see the brush strokes." – **Sheila Kanani**



△ Our Moon

Mars-set

Ethan Chappel

Location: Cibolo, Texas, USA

Equipment: Celestron EdgeHD 14-inch telescope, iOptron CEM70 mount, Astro-Physics BARADV lens, ZWO ASI462MC camera, 7,120mm f/20, multiple 15-millisecond exposures

Judge's verdict: "The occultation of Mars by the Moon was one of the last and greatest celestial events of 2022. It was also one of the most challenging to image. To capture the level of detail on Mars that you see here takes a huge amount of skill and practice." – **Steve Marsh**

The Annie Maunder Prize for Digital Innovation ▷

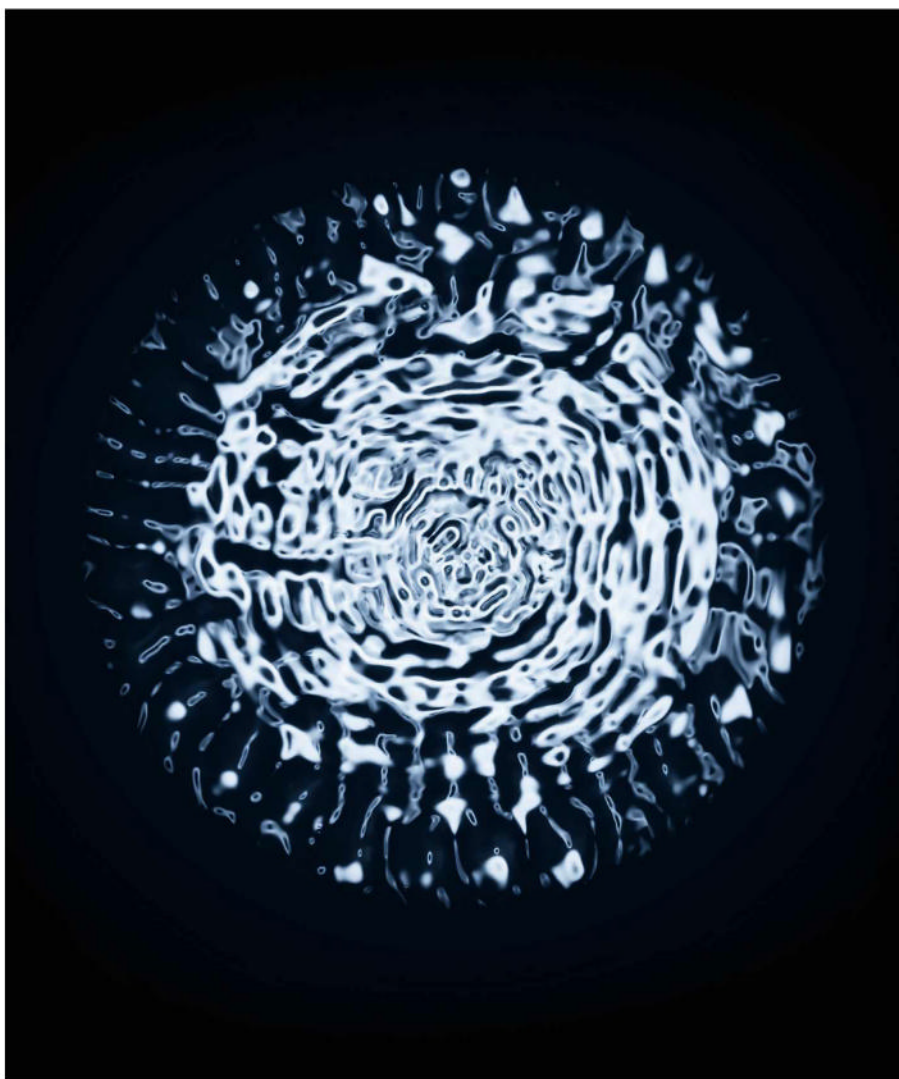
Black Echo

John White

Original data: NASA Chandra X-ray Observatory, May 2022

When NASA's Chandra X-ray Telescope captured the sound of the Perseus Galaxy's supermassive black hole, they had to shift the sound by 57 octaves to allow humans to hear it. White then took this sound and played it through a petri dish of water, capturing the dancing liquid to provide a visual representation of the otherwise invisible sound.

Judge's verdict: "Most of the information in the Universe is imperceptible to human senses. Interpreting and presenting that information is vital as well. Here, we are shown an interesting and playful visualisation of astronomical data that we could not 'see' by ourselves, nor 'hear'. Stark, beautiful, rather weird, and certainly innovative!" – **Ed Bloomer**





△ People and Space

Zeila

Vikas Chander

Location: Heintesbaai (Henties Bay), Erongo region, Namibia

Equipment: Nikon D850 camera, 135mm f/2.8, ISO 200, 30-minute exposure

Judge's verdict: "I really love how the star trails poking through the grey sky provide a stunning backdrop for this stranded ship. It's a hauntingly beautiful image that would be the perfect setting for a ghost story and is one of my favourites from this year's competition." – **Melissa Brobby**

▽ Planets, Comets and Asteroids

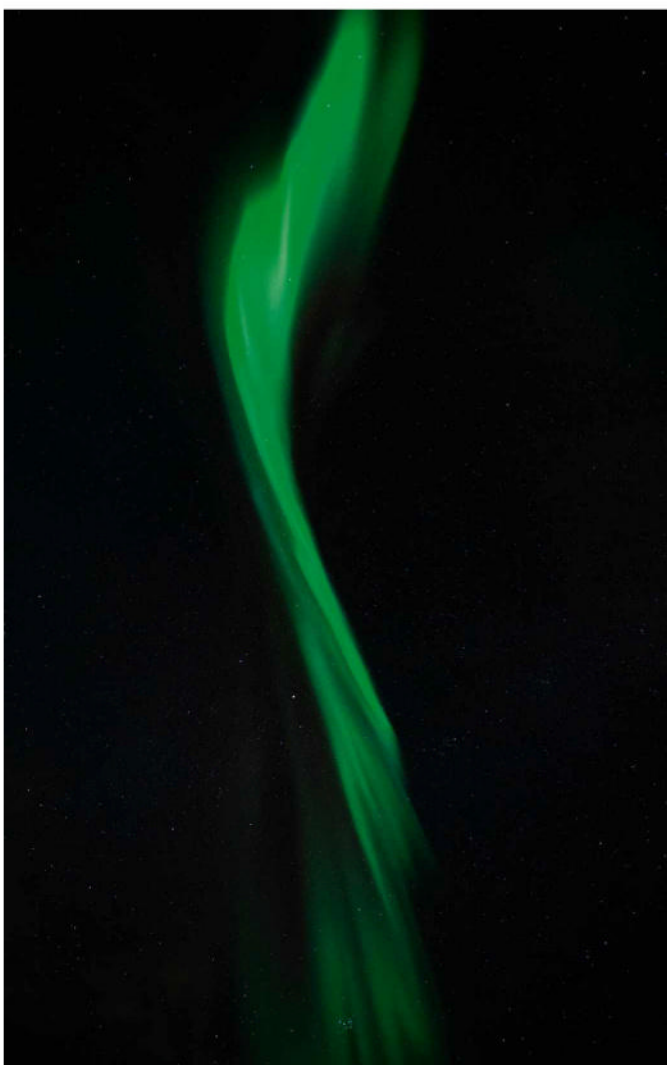
Suspended in a Sunbeam

Tom Williams

Location: Trowbridge, Wiltshire, UK

Equipment: Sky-Watcher 400P 16-inch Go-To Dobsonian, Baader Bessel (U)BVRI and ZWO IR850 filters, ZWO ASI462MM (Early-Bird) camera, 8,750mm f/21.5, 133.75-second exposure in IR/UV

Judge's verdict: "Venus can be easily found with the naked eye or



△ Aurorae

Brushstroke

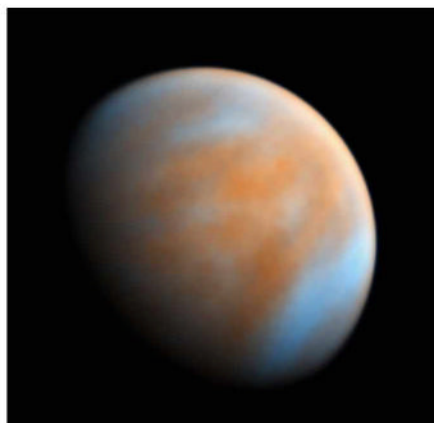
Monika Deviat

Location: Utsjoki, Lapland, Finland

Equipment: Nikon D850 camera, 14mm f/2.8, ISO 3200, 4-second exposure

Judge's verdict: "We're accustomed to

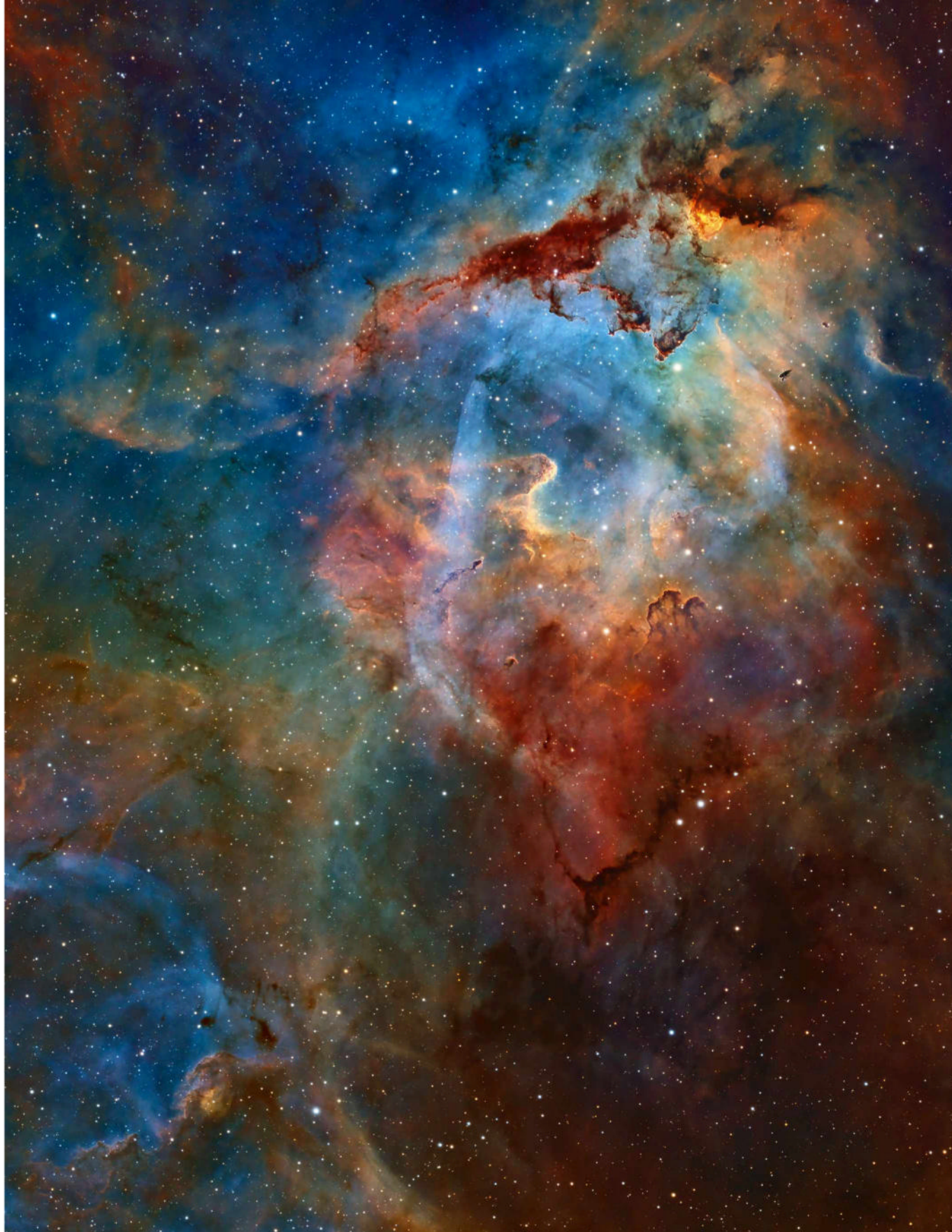
seeing aurorae with mountains, trees and human-made structures framing the dancing lights. This offers something different, showcasing the beauty of the



photographed with a small telescope, as it's the planet with the largest angular diameter that can be seen from Earth. But not like this. Capturing these atmospheric details when it's so far from Earth is a remarkable achievement."

– **László Francsics**

aurora in isolation. The composition evokes the arts of brush-painting and calligraphy practiced in many cultures around the world." – **Katherine Gazzard**



△ The Sir Patrick Moore Prize for Best Newcomer

Sh2-132: Blinded by the Light

Aaron Wilhelm

Location: Santa Monica, California, USA

Equipment: William Optics Fluorostar 132mm telescope, Chroma 3nm/50mm SII/H-alpha/OIII filters, Astro-Physics Mach2GTO mount, ZWO ASI6200MM Pro camera, 910mm f/6.9, 66.5 hours total exposure

Judge's verdict: "The perseverance and stamina of astrophotographers is what makes us truly stand out in the photography field. This photographer has put in the hours and studied their craft to create a beautiful image of this field of nebulosity. With subtle but varying

colours across the whole palette, the dark twisting lanes of dust are resolved in exquisite detail and the stars are perfectly round with no hint of trailing. It shows that, even at the early stages of astrophotography, there are no limits to what we can achieve." – **Steve Marsh**



◀ Stars and Nebulae

New Class of Galactic Nebulae around the Star YY Hya

Marcel Drechsler

Location: Ovalle, Chile

Equipment: ASA Newtonian 500mm telescope, ASA DDM85 mount, FLI ProLine 16803 camera, 1,900mm f/3.8, 360 hours total exposure

Judge's verdict: "This is an absolutely breathtaking image of the YY Hya star and its interstellar environment. Remarkably, the nebula was discovered during a search for previously unknown galactic emission nebulae. After more than 360 hours of exposure time, the photographer revealed a gorgeous ultra-deep stellar remnant."

– **Yuri Beletsky**

▽ Skyscapes

Grand Cosmic Fireworks

Angel An

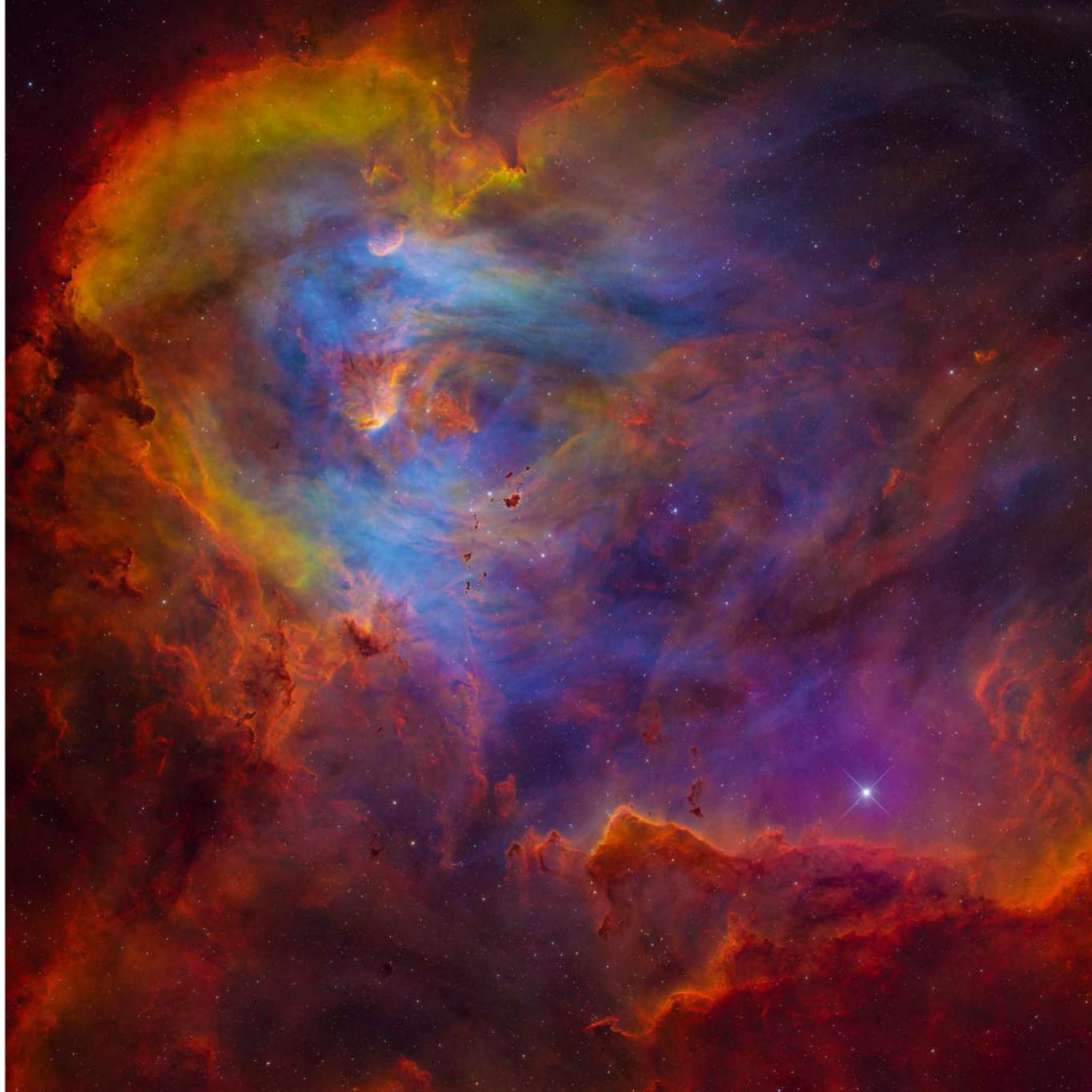
Location: Lake Puma Yumco, Tibet, China

Equipment: Sony ILCE-7SM3 camera, 135mm f/1.8, ISO 12,800, 4-second exposure

Judge's verdict: "This is not, as it might first appear, an enormous extraterrestrial, but the

lower tendrils of a sprite (red lightning). This rarely-seen electrical discharge occurs high in the atmosphere. While the gradient of colours is beautiful, impressively the image also reveals the delicate structure of the plasma." – **Ed Bloomer**





△ Young Astronomy Photographer of the Year


The Running Chicken Nebula

Runwei Xu and Binyu Wang

Location: El Sauce Observatory, Río Hurtado, Chile

Equipment: ASA 20N f/3.8 Newtonian telescope, ASA DDM85 mount, FLI ProLine 16803 camera, 1,900mm f/3.8, 5.5 hours total exposure

Judge's verdict: "The photographers have managed to capture the vibrant colours of the nebula as well as the embedded star cluster. This cluster contains several hot, young stars whose intense radiation causes the surrounding nebula to glow.

The interaction between the stellar winds from these stars and the denser pockets of material in the nebula leads to the creation of interesting features, such as Thackeray's globules, potential sites of future star formation." – **Yuri Beletsky** 

The judges

Imad Ahmed: Director of the New Crescent Society

Yuri Beletsky:

Astrophotographer and astronomer at Las Campanas Observatory

Ed Bloomer: Senior Astronomy Manager: Digital

& Data at Royal Museums Greenwich

Melissa Brobby: Amateur astronomer, journalist and science communicator

László Francsics: Architect, Chairman of the Hungarian Astrophotographers'

Association and overall winner of the Astronomy Photographer of the Year competition in 2019

Sheila Kanani MBE:

Education, Outreach and Diversity Officer for the Royal Astronomical Society

Katherine Gazzard: Curator of Art (Post-1800) at Royal Museums Greenwich

Steve Marsh: Art Editor of *BBC Sky at Night Magazine*

Alan Sparrow: Chair of the UK Picture Editors' Guild