

# Lens to the stars

## EXHIBITION

In 1609, Galileo made his first optical refracting telescope to study the night sky. Over time, telescope technologies improved to permit higher resolution, faster exposures and smoother tracking. By the 1870s, photography had become a central tool in astronomy, preserving the

view of the cosmos for scientific endeavours and the curiosity of humankind. Every year the Royal Observatory, Greenwich, UK, hosts an astrophotography competition that is open to hobbyists and professionals alike. Culled from 1,700 entries from astrophotographers in over 50 countries, Astronomy Photographer of the Year 2014 presents a showcase of this year's winning images — and one that can be viewed either in the observatory's exhibition space at the Prime Meridian or online from any longitude of your choosing (<http://go.nature.com/boxiS4>).

The images are striking in their diversity. The pond in Alexandra Hart's *Ripples in a*

*Pond* (pictured) is not a tranquil pool of water, but the fiery turbulent surface of the Sun, in which filaments in a massive active region are stirred by magnetic forces. Taken with a solar telescope, the image captures the dynamic nature of the solar landscape such that it appears to pop out at the viewer in three dimensions.

In contrast, Bill Snyder's *Horsehead Nebula (IC 434)* presents a tranquil view of the oft-imaged nebula that seems taken out of a dream or fairy tale. What appears to be the head of a horse rises up from crumpled wisps of gas and dust into the pink glow of a star-pierced sky.

Not all of the astrophotographers relied on a telescope or the view from the Earth's surface. Catalin Beldea took *Totality from Above the Clouds* from the window of a small airplane 3,200 metres above Kenya during the solar eclipse in 2013. Chasing the eclipse by plane to escape from the cloud cover, the photographer had only 10 seconds to capture this image, a mere blink in the relative motions of the Earth, Moon and Sun. And Patrick Cullis' *Moon Balloon* captures the curvature

of the Earth, the relative flatness of the mountainous continents and the thinness of the atmosphere in a photo taken from a high-altitude balloon floating 26,500 metres above the Rocky Mountains, USA.

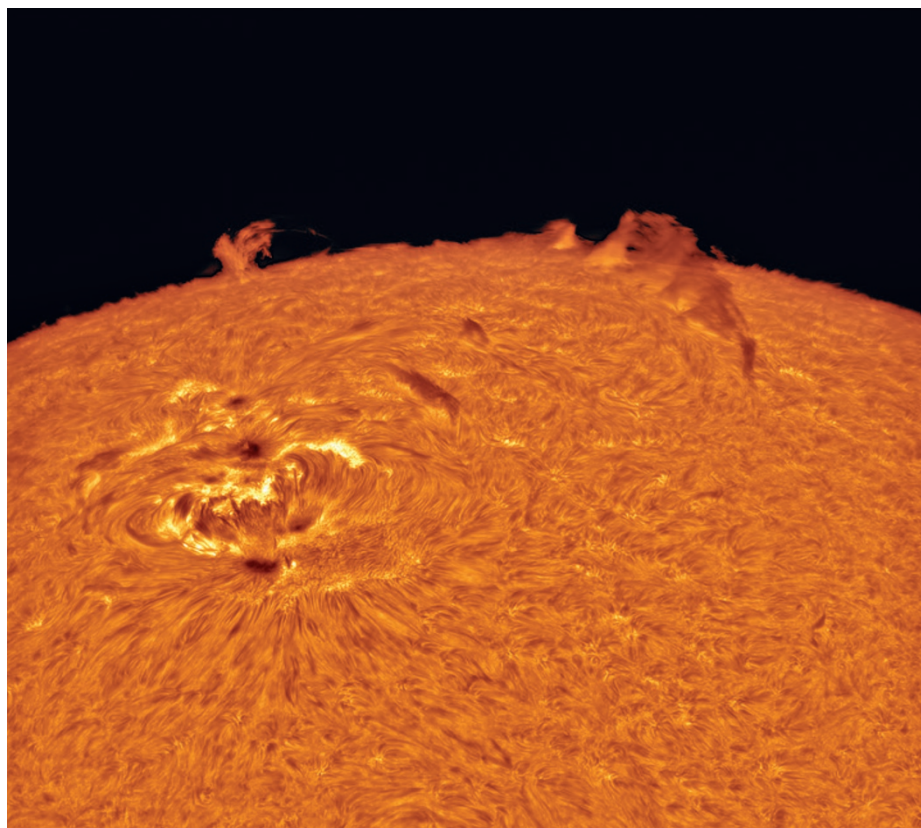
**The view through our own telescopes and camera lenses continues to mesmerize.**

The heart of the exhibition are the winning images in the young photographer category. They show the universe as seen through the lenses of the next generation of stargazers — perhaps the astronomers and the planetary scientists of the future. Fifteen-year-old brothers Shishir and Shashank Dholakia used their father's equipment to take their winning image of the Horsehead Nebula. The horse appears to gaze from afar towards the Flame Nebula in an image that seems to tell a distinctly different story from the one told by Snyder's image. And ten-year-old Olivia Williamson set up a telescope with her father to take *The Martian Territory*, a fuzzy portrait of Mars in which the polar ice caps and some other surface features can be identified.

This month, the European Space Agency's Rosetta mission prepares to deploy its lander to the surface of comet 67P/Churyumov-Gerasimenko, after weeks of imaging the comet's irregularly-shaped nucleus from a distance of only about 30 km. It is clear that our view of the universe in the era of space exploration has come a long way since Galileo first tracked the planets through his basic telescope. But, as Astronomy Photographer of the Year prepares to open their 2015 competition, the view through our own telescopes and camera lenses continues to mesmerize. □

REVIEWED BY TAMARA GOLDIN

■ *Astronomy Photographer of the Year 2014* is at the Royal Observatory, Greenwich, UK, until 22 February 2015. The winning images can be viewed online (<http://www.rmg.co.uk/whats-on/exhibitions/astronomy-photographer-of-the-year>), as can the complete set of 2014 entries (<https://www.flickr.com/groups/astrophoto/>).



RRIPLES IN A POND BY ALEXANDRA HART