The RASC-Kingston Centre 2021 Member Image Gallery

Member submitted best imagery of the year

Stephen Craig

I spent most of my time in 2021 imaging galaxies. So I think it is only fitting that my best is a galaxy. I have imaged M33 many times before but I was never quite satisfied with the outcome. With this effort I tried a new technique, HDR (High Dynamic Range) imaging. I was thrilled with the result. The detail and colour is outstanding.

To make this image I stacked 5 exposures each of 5, 10, 15 and 20 minutes. My equipment is my Celestron 11 inch f/10 Schmidt-Cassegrain telescope. Mallincam Universe II CCD Camera, Innovations Foresight on axis guider with an Starlight Express Ultra Star guide camera. I guided with PHD2, stacked with Deep Sky Stacker and enhanced with Photoshop.

Roger Hill

Despite two partial eclipses that I was able to see (one solar and one lunar), it was this image of the Moon that I took on March 22nd (2021-03-23, between 02:16 and 02:38, UTC) that has remained as my wallpaper on my phone for the longest time this year.

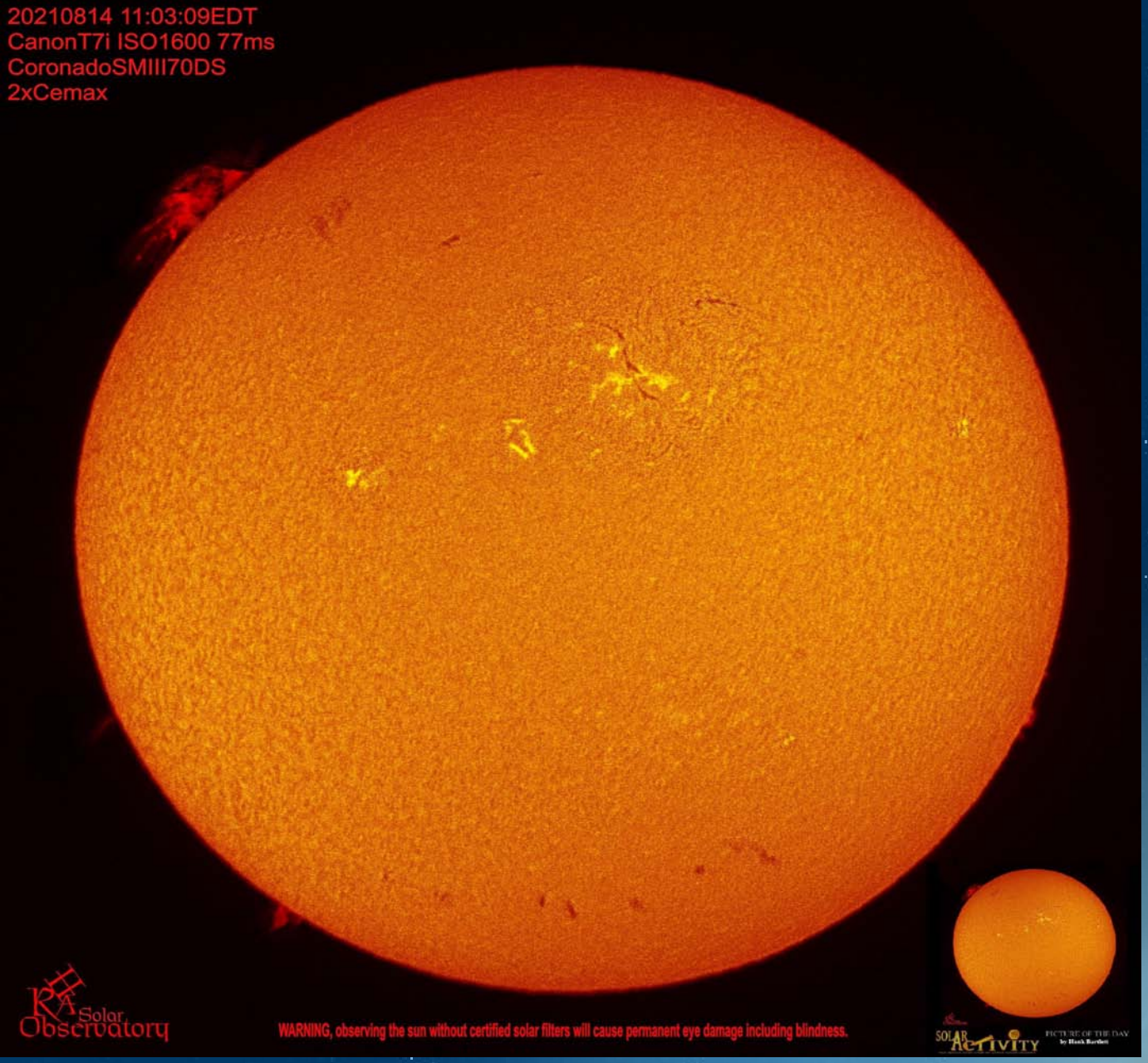
Being colour blind, I don't often get a chance to really play around with the colour of the Moon, or other planets, but that's not the case when producing a "Mineral Moon" image like this. The basic technique is to use layers in photoshop and create a luminance layer and a chrominance layer. The chrominance is then boosted slightly, multiple times, before putting the two layers back together.

I used my 6"Ritchey-Chretien with a focal reducer, and so about 950mm of focal length. The camera was a ZWO ASI1600mm, cooled to -20°C, and Firecapture was used to capture about 10,000 16-bit frames in each of four colours: Infra-Red, Red, Green and Blue. AstroStackert,, PIPP and Registax were used to create 4 monochrome images and Photoshop CS2 was used to create two colour images: IrRG which was mapped to RGB respectively, and an ordinary RGB image. Each of these were then processed to produce two Mineral Moon pictures, but the standard RGB image was more pleasing to my eye, so that is what I submitted.

The image is of both M52 and the Bubble Nebula (NGC 7635) with the added bonus of super nova V 1405 as the green arrow indicates. All within the constellation of Cassiopeia.

The image was taken on June 4 2021, with a 6 inch Celestron SE telescope, 0.63 reducer and using an uncooled ZWO ASI294 colour camera. A total of 2 minutes of 8 second exposures were taken and stacked in SharpCap and saved as a PNG for some basic processing in Affinity.

Mark Deslauriers

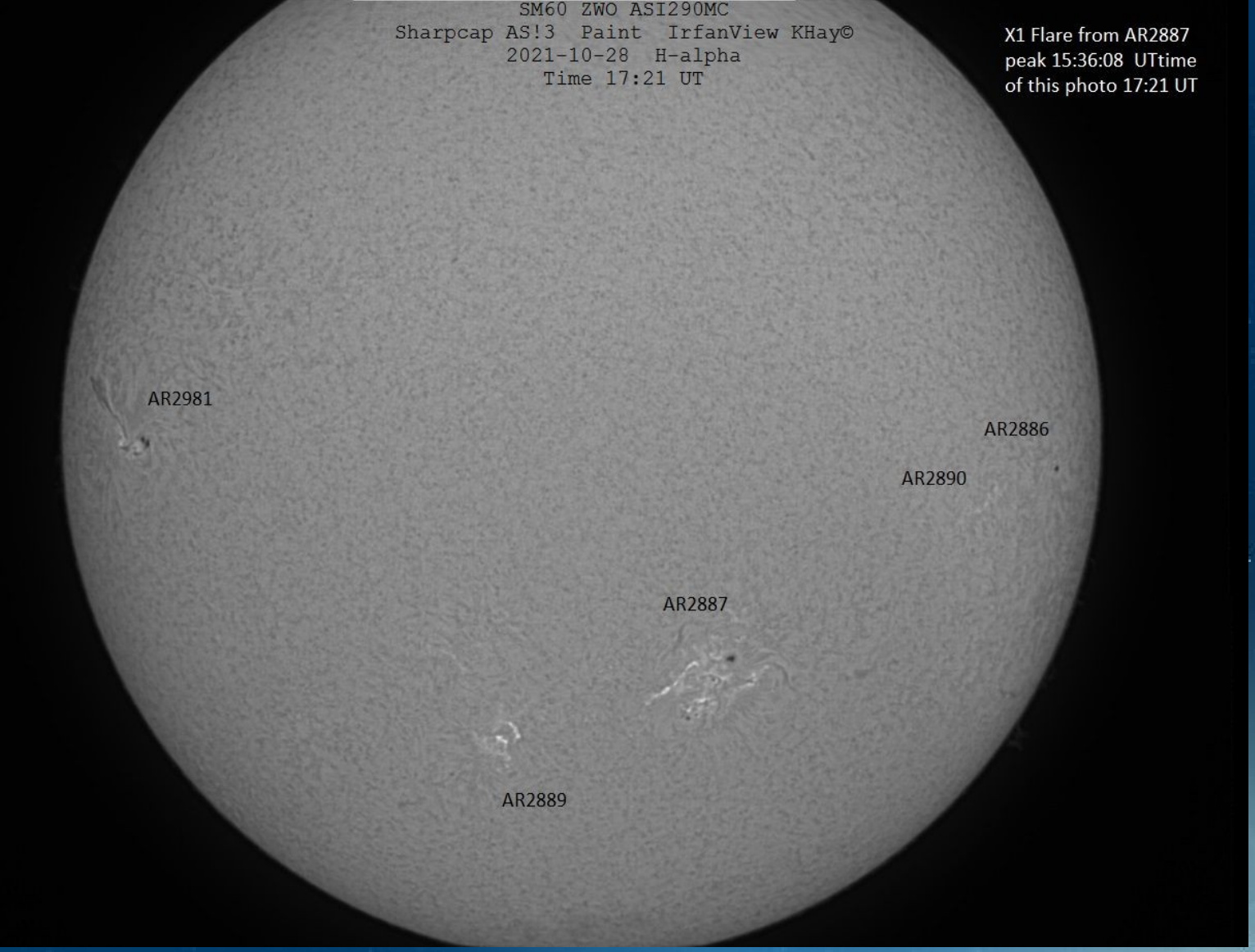


Hank Bartlett

August 14 2021 was a particularly good day for large morphing solar prominence.

This prominence on the solar NE limb covering an area approximately 250x earth size changed shape rapidly (by solar standards) and was beautiful to return to as the days passed. By the 17th it was rotating onto the solar face and began displaying as a filamental structure as well as a prominence, by the 20th it had moved completely off the limb and lasted until around 13:00UT on the 22nd when it began collapsing over about 12 hours back into the solar surface.

This submission is a single image with a CanonT7i DSLR mounted by t-adapter/2xCemax Barlow on my Coronado SolarMaxIII 70mm double-stack, processing was done with ACDSee Photo Editor 11. Other exif data is listed on the image.



Solar X1 Flare

H-alpha Image taken with the Coronado SM60 hydrogen-alpha telescope, a ZWO ASI120mm camera. The image was taken at 17:21 UT 2021-10-28 .

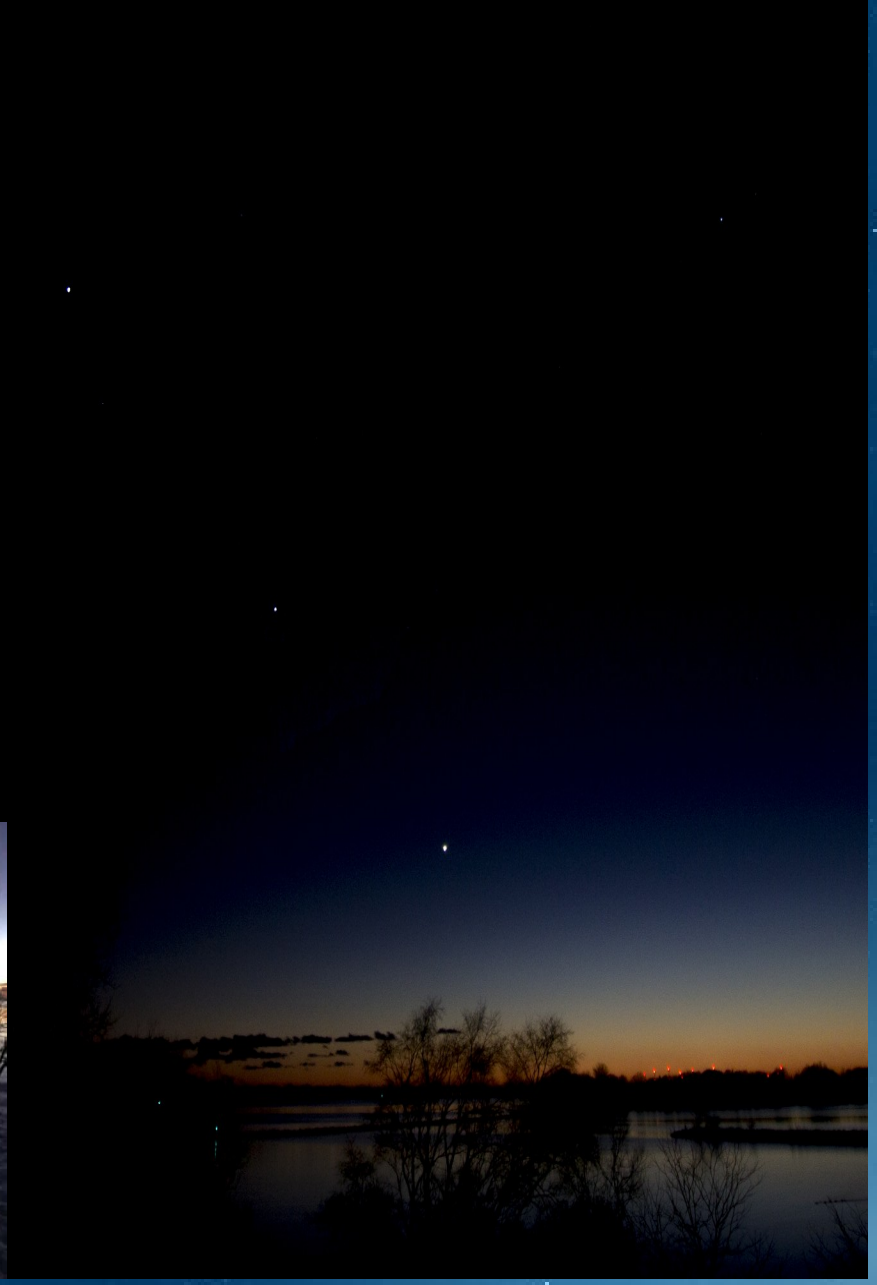
This was an X1 solar flare from AR2887 at 15:36:08UT. There is still remnants of active areas in AR2887.

I Used Sharpcap ver 3.2, Autostakkert!3, Paint, Irfanview for processing This was during CR2250 (Carrington Rotation)

Solar Orientation Results.

Lo 269.89 degrees
Bo 4.71 degrees
Po 24.96 degrees

Kim Hay



Bruce Elliott

Planetary Lineup – Jupiter, Saturn and Venus in the southwestern horizon

5:52pm December 19, 2021.

Technical Details: Canon EOS 60D camera with 10mm Rokinon Lens, at ISO 200, f/2.8, 1.6s

After several days of cloudy weather, the southwestern sky suddenly cleared late in the day. Our daughter and family were visiting, and we went to Lake Ontario Park in an unsuccessful attempt to see Comet Leonard. As dusk turned to dark, this relatively rare planetary lineup became clearly visible by naked eye. This was a first-time sighting for our grandson (8 yrs old)…and an exciting experience for us all!

Insert lower left: We used the RASC Centre's Dobsonian Telescope (on loan) to view Jupiter's Moons and Venus in its crescent phase. A wonderful site!

Rick Wagner

The Helix Nebula (NGC7293) is a very large planetary nebula located about 200 parsecs distant in the constellation Aquarius. It is a 0.5 parsec diameter shell of very tenuous gas fluorescing in the light from its central star. There is at least one outer shell of gas which is beginning to become visible in this image to the upper left of the main ring.

This is a stack of 16 x 300s exposures at ISO1600 shot on 4 September 2021 with a Canon 60Da, 0.25m f/4 Schmidt-Newtonian on a Losmandy Titan mount, autoguided with a 60mm f/5 guidescope using PHD2 multi-star guiding with 0.5s exposures. Images were reduced with a master flat frame (but no bias or dark frames) followed by application of curves, final vignetting correction, and colour balance in Photoshop.

Malcolm Park

Comet C/2021 A1 (Leonard) in Bootes

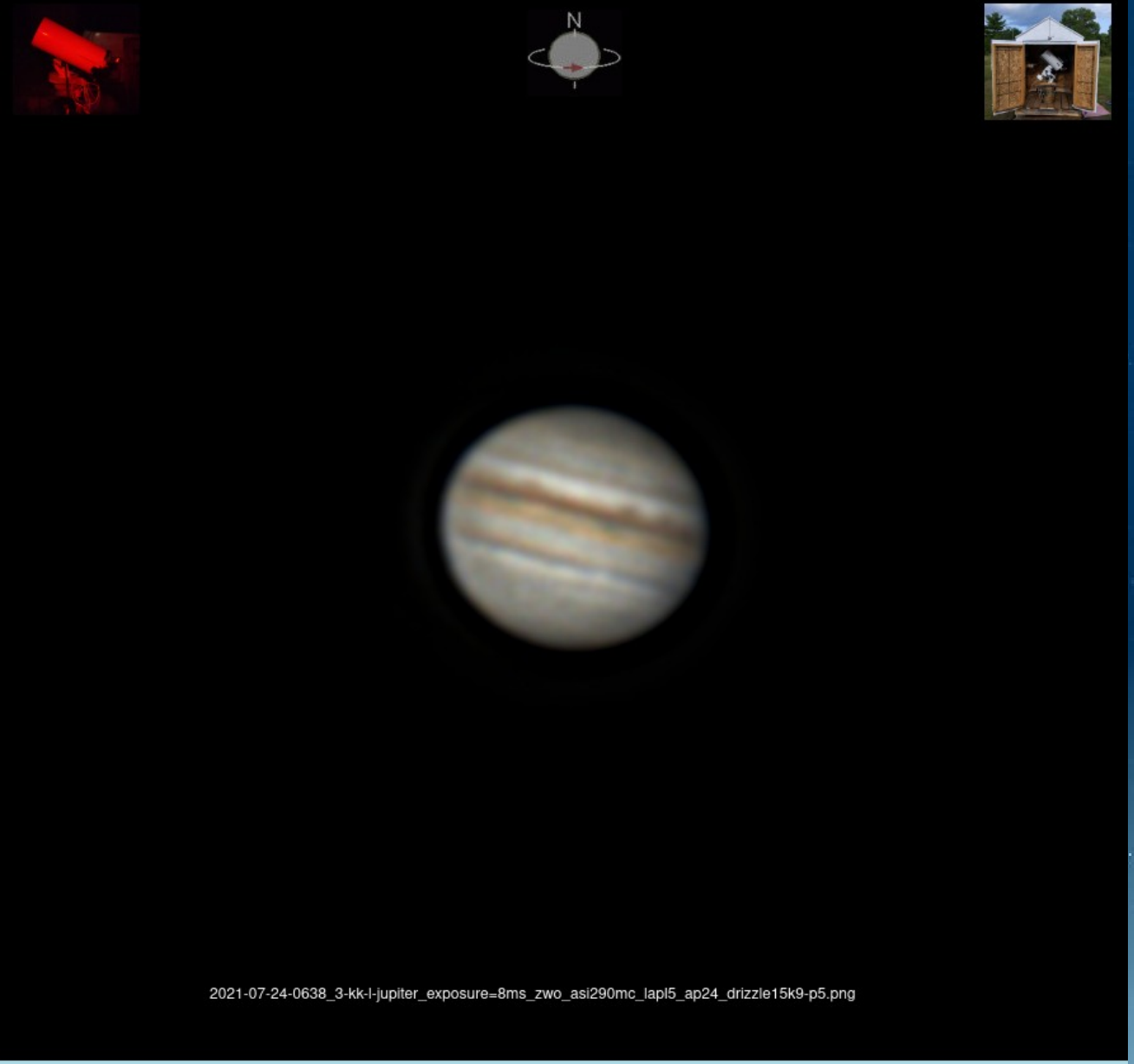
I chose this photo because the comet became quite popular towards the end of the year.
I felt that looking back on 2021, the story I would associate with this year would be the appearance of C/2021 A1 Leonard.
I shot this comet a few different ways, using different fields of view and lens combinations.
In the end, I submitted this image because it allows the viewer to place the comet in the sky against the constellation Bootes and to a degree, it shows a sense of scale.

Nikon D800
Sigma 50mm f/1.4 @ f2.8
ISO 800 1 X 60s
Star Adventurer

Venus, Saturn, and Jupiter over a Frozen Lake. December 19, 2021

ISO 800, 18 mm, 13 seconds, f7.1 7:09 p.m.

Rose-Marie Burke



Kevin Kell SCGO Serenity II Observatory Yarker Ontario Canada
SkyWatcher AZ-EQ6GT; VixenVC200L 20cm F9; ZWOASI290MC

Kevin Kell

Jupiter 2021 July 24th

This is my First Light with my First ever personal telescope that I saved and saved for (the 1970 Tasco does not count!). All others have been borrowed, loaned, or gifted.
This is also important as a First Light benchmark, to compare against all future imaging.

06:38 UT
8ms exposures, 180 second imaging run (firecapture) with a Skywatcher az-eq6GT Mount, a Vixen VC200L 20cm f9 1800mm FL Cassegrain telescope and a ZWO ASI290mc camera
Processed with: PIPP, Autostakkert!3, Registax

The Royal Astronomical Society of Canada - Kingston Centre
2021 Member Image Gallery

Submission deadline is
2021 December 31st for the final revision of this Gallery for inclusion into the Centre archives.