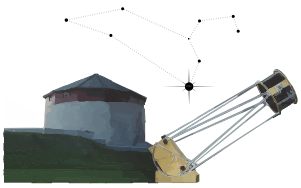
October 2018

Regulus

RASC Kingston Centre



Upcoming Events

Thursday, September 13 . . . . . 19:00
Members' Night

Saturday, September 15 . . . . . 20:00
KAON Session

Thursday, October 11 . . . . . 19:00
Members' Night

Saturday, October 13 . . . . . 19:30
KAON Session

Thursday, November 8 . . . . . 19:00
Annual Meeting

Saturday, November 10 . . . . . 19:30
KAON Session

Thursday, December 13 . . . . . 18:00
Annual Christmas Dinner
at the Mandarin restaurant in Kingston

Thursday, January 10 . . . . . 19:00
Regular Meeting

- Meetings are held at Mack-Cory Hall D214, Queen's University, unless otherwise noted.
- KAON Sessions are held at the observatory, Ellis Hall, Queen's University.

Check kingston.rasc.ca for the latest info, kingston.rasc.ca/observing/sites for sites. ★

Fall'n'Stars 2018

Kevin Kell, Rose-Marie Burke

Kevin: Wow. 19 years of the Fall'n'Stars Star Party! (Yes, year 1 in 2000 was in fact called DSNOS but it still counts.) The details are not in yet but I suspect on the financial side it went OK.

On the cloud side it was mostly cloudy, heavily dewed but there was in fact some observing and some imaging!

On the rocket side, there were two good launches on Friday evening (Malcolm with a 20+ year old rocket and Kevin with a brand spanking new rocket—because last years is in the trees somewhere, along with six others from past years), and a rather lame launch on Sunday morning. I wanted to use up an old A8-3 engine

Continues on page 5...

Rick Wagner

Reports and Other Items

From Kingston Centre, the RASC, and Beyond

Fetter Strikes Twice

Kim Hay reports: **Kevin Fetter** has his equipment up and working again, and has been busy watching Unids. In August, Kevin garnered two mentions on spaceweather.com. The first was an observation of the US Air Force's X-37B shuttle as it passed near Arcturus: "The space plane was about as bright as a 4th magnitude star— definitely visible to the unaided eye. Back in April, I watched it pass across the Moon. It was very cool to see!" The second was an observation of the unmanned Chinese space station Tiangong-2 passing by Betelgeuse.

Explore the Universe

This RASC program has a new French language guide. There is also a nice video on how to use the Star Finder. rasc.ca/explore-universe

Nathalie Ouellette

Susan Gagnon reports: **Nathalie** left Kingston in the summer to start a new position at the Université de Montréal and the Canadian Space Agency as the JWST Outreach Coordinator for all of Canada in September. When she is famous we will be able to say 'we knew her when...'

[*Star Trek*'s] *Vulcan Found*

The Dharma Planet Survey has located the Vulcan home world! It is about twice the size of Earth and orbits just inside the habitable zone of 40 Eridani A (HD 26965): earthsky.org/space/star-trek-planet-vulcan-40-eridani-a

Cielo

Many Centre members came out for dinner and/or a movie on August 29th (Laurie had reserved almost two dozen tickets for us.) Dinner was at

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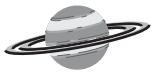

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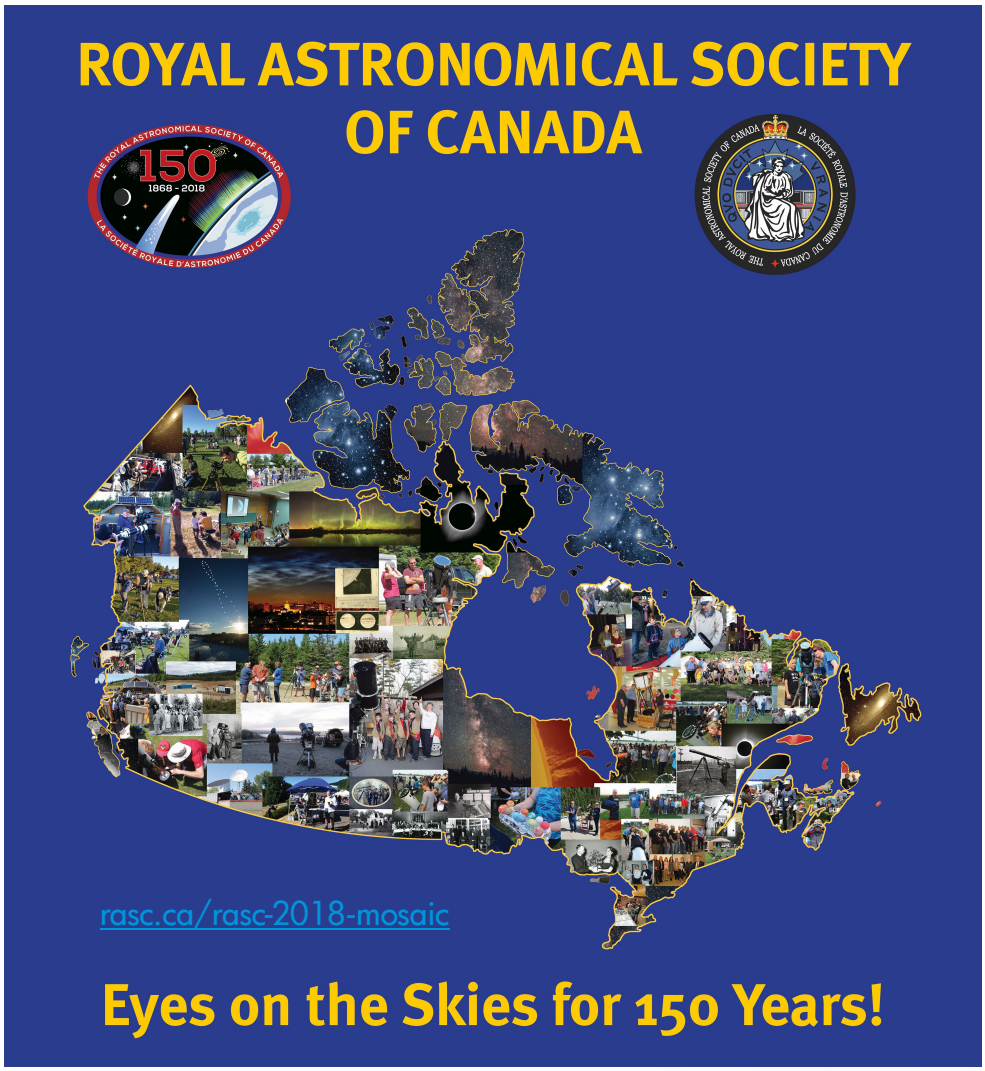

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Regulus Needs You!

ITEMS OF INTEREST FROM MEMBERS—full articles, or even just a couple of paragraphs are always welcome. Items are gratefully accepted on each and every day of the year! Send items to:

walter (dot) macdonald2 (at)
gmail (dot) com

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KAON Report: April 14

Susan (18:15): There is quite a thick layer on the roads, and it did not seem too slippery, but that will be a different story if it gets much colder I think. Best part: so few folks on the road. Worst part: it is so bouncy that you cannot keep it from getting down your neck!

I dropped some supplies off to Matt at Stirling Hall and let him know I was not coming back into town. I would be surprised if he has anyone other than students tonight. Perhaps Nic can recreate his talk another time.

Bruce: I can tell you that I was able to make it to the talk, since I am only a 10-minute walk away from Ellis Hall. Laurie Graham, her husband, and Kevin also were there. About 20 other people—mostly students or locals.

The talk was really enjoyable. Nick is a second year M.Sc. student and had just got back from Hawaii where he has been doing some multiple imaging in different ranges of the spectrum. He showed classic regions of the sky (*e.g.* the Orion Nebula) viewed through different types of filters and telescope technologies (*e.g.* radio, UV, gamma along with visible spectra). He explained the types of information that each type of image can provide. It was beautifully presented and very friendly to the audience. There were several mid-school aged students asking questions—digital approaches are so attractive to that generation!

For sure I would recommend inviting Nik to give a RASC talk. We will need to do it soon, as he will be off to new horizons by the end of this summer. I chatted with him at the end and he has, in fact, given his talk in a number of outreach venues. ★

Annual Meeting: November 8

Kim Hay, Secretary

The Centre devotes half of its November meeting each year to get its business done. The best part is that we get to hear summaries of a year's worth of activities—and it has been a good year!

As usual, several positions are up for election this year, and the duties for these are listed below for anyone who is interested in participating and bringing your ideas to help run the Centre.

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AGM AGENDA

1. Welcome
2. Presentation of Agenda
3. Approval of Agenda
4. Approval of 2017 AGM minutes
5. Reading of annual reports:
   - President
   - Secretary (*report and approval includes update to the year end.*)
   - Treasurer
   - Library
   - NAC Representative
   - Editor
6. Centre Elections:
   - Secretary
   - Librarian
   - Editor
   - NC Representative
7. Appointment of Auditor
8. Adjourn with thanks

Science Rendezvous: May 12

Susan Gagnon

Brian Hunter, Rick Wagner, Bruce Elliott, Hank Bartlett, Laurie Graham and Susan Gagnon teamed up with Queen's and RMC Astronomy grad students to provide views of the Sun, lessons on StarFinder use and to answer general questions about astronomy. The day was hazy but there were plenty of folks lined up to see what they could. 301 StarFinders were handed out which I estimate corresponds to at least 500 contacts made. For example not all who went to the scopes came to the table, StarFinders were often given to children, but lots of questions came from the adults with them. About 100 of our new stickers were handed out. There were a couple of inquiries about club meetings and several folks who have scopes and are not using them for lack of confidence in set up expressed an interest in getting started. This reinforced my opinion that we may get a good response if we ran a telescope clinic one of these days. We have such a great pool of expert users that it is a shame to keep all of that valuable info to ourselves. It was a good day and worth the effort. Thanks to Colin Lewis at RMC who organized the table we shared and registered our volunteers.

Hank: Regardless of the near-nil visibility conditions I quite enjoyed the afternoon. Once set up, I realized that Queen's had the H-alpha covered and also the solar white light was not clear enough to show AR2709, so I decided to stick with Venus and managed to wow and impress a few with it. It was a nice hot day for our last event at the KROC Centre. (BTW how is your forehead tonight Rick?) There was little time to mingle as the crowd flow was constant but it was good to see all of you there just the same.

Kevin: Thank you for helping out with this, as well as the others! We are sad that we could not make it this year. I will not make it worse by saying it was pretty clear north of the 401.

Susan: Thanks for coming out Hank and all other volunteers (Brian, Rick, Laurie, and Bruce)! Additional thanks for the gang that were there early to receive my pile of hand out materials. This allowed me to run away for a couple of hours and take part in another activity I had going at the same time. ★

KAON Report: June 9

Susan Gagnon

The session began with a talk by **Ananthan Karunakaran**, Queen's Ph.D. candidate, "When Space Gets Fuzzy: Low Surface Brightness Astronomy." Ananthan gave us the rundown on the approach required to extract information from these elusive galaxies that are beyond the reach of most observers. As is often the case, multiple wavelengths are required just to paint a picture of the actual size of many of these distant objects, some of which if located as near as the Andromeda Galaxy is to us would take up a quarter of our sky. One more reason not to scoff at the faint fuzzy!

There were about 45 people in the audience and after the talk and question period the Centre had three *SkyNews* subscriptions to give away. As people were entering the auditorium they were offered tickets to fill out if they were interested in the subscriptions, and 35 tickets were filled out. Tours of the dome followed and on the deck **Laurie** and **Devon** set up their scope and I got out the Centre binoculars and passed them around.

It was overcast with Jupiter and Venus only visible to start with. As time went on the clearing continued and we were able to get people to use the binoculars to also look at Antares to appreciate the colour. Just before packing things up after 10:30, Saturn showed up low in the east. I had misidentified it as Mars as I knew it was coming up, and it was *soooo* pink in the heavy atmosphere. Fortunately **Laurie** got the scope on it and saved the day! Thank you Laurie!

The Centre passed on a card to **Matt Chequers** thanking him for his efforts as Observatory Coordinator and working with us on so many outreach occasions over the years. He was also given five of the new Centre stickers, which he recognized immediately as a laptop sticker! I told him that if he ever finds himself in an exotic locale, that he had to take a photo of the sticker there and send it to us. A new coordinator has been chosen and we look forward to meeting **Connor Stone** in July.★

KAON Report: July 14

Susan Gagnon

Approximately 45 people came out to hear **Colin Lewis** (Queen's/RMC) speak. The talk, titled "What Makes a Galaxy?" gave an overview of basic galaxy content and how they fit hierarchically into the universe as we understand it.

There was a primer on galaxy characterization by shape, with or without arms, etc. Colin then gave a brief description of his research and interest in barred galaxies. We also received a tutorial on the use of a program that strives to characterize all galaxies that there are photos of! *Galaxy Zoo* presents photos and asks anyone who logs on and cares to offer an opinion, what their impressions are of various visible features of the galaxy they are observing. Where there is sufficient consensus the galaxy is considered classified as perhaps a spiral with two arms and a central bulge as well as having various other attributes. When these galaxies are categorized they are available for researchers to find out if there are enough of the kind that they are interested in to get some real work done.

Following the talk we had a draw for a book supplied by the Centre (*Ten Worlds*; Croswell). 18 people participated in this little exercise! We also got a first official introduction to the new Observatory Coordinator, **Connor Stone** and he seems sufficiently enthusiastic. (**Matthew Chequers** has moved on in search of a job and a life after finishing his Ph.D.) As the sky was less than transparent, small scopes were not set up on the deck although **Laurie**, **Devon** and I were at the ready! Tours of the dome went ahead as usual and we left some handouts including the brochures for StarFest.

What I have discovered since this KAON session: *Galaxy Zoo* is actually one of dozens of research projects seeking help from the man in the street as it were. When you have a minute check out zooniverse.org where Galaxy Zoo resides.

Kim: I did some work on *Galaxy Zoo* years ago on the comet dust that came back to earth. It was fun, but consumed a lot of computer time.
Also from the ASP, you can go to cosmoquest.org/x/ and help map out the Moon, Mars, Mercury and Vesta. We have been following *Cosmo Quest* for several months on Twitch. There are daily updates from **Dr. Pamela Gay** and **Fraser Cain**. There are also daily 365 days of Astronomy news.

For those who are art inclined, Dr. Pam does a Saturday afternoon session, "Science and Art Making Icy Worlds with Paints."★

Imagining the Skies Contest

As part of the RASC sesquicentennial, the *Imagining the Skies* contest is live all during 2018. Submit your astrophotos, sketches, or other creative works, and while you are on the site, vote for your favorites in the different categories.

http://imaginingtheskies.ca

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...Fall'n'Stars 2018: September 7–9

on a rocket too large for it, which caused it to go up a little, come down a lot and pop the parachute about 0.2 seconds before impacting the ground). Bam! The rocket did survive.

On the speaker side there were great talks from **Dave Cotterell** (new telescope and new observatory), **Doug Angle** (astronomy before 1812), me (new observatory) and then the great keynote from **Malcolm Park** (something about Chile). Did he really speak for 3 hours 20 minutes? Wow! OK, maybe 1 hour 20 minutes...time flew by and there were a dozen people wanting to carry his bags to be able to get to Chile the next time he went.

On the dinner side: pizza and salad and chicken wings and pop from Vitos in Tweed. It was good, fast, and painless, with easy clean-up and no leftovers!

On the malien, womalien side, the outhouses are in fact getting spiffier every year. The womalien side now has a coat hook! Thanks to Susan for the outhouse cleaning services.

There was a great turnout of over 35 people, with a few new faces.

On the warmth side, there was none! Holy weather stations Batman: 4.4C on Saturday morning, 2.2C on Sunday morning.

Thanks to all of the organizing committees in Belleville and Kingston for a great time. It was good to chat about astronomy for hours at a time with people you haven't seen in ages.

Rose-Marie: A BIG THANK YOU to all who organized and did the hard work to put together this event! Dennis and I really enjoyed ourselves this year. In spite of cold nights and some clouds it was *dry* during the day (but heavy dew overnights).

We actually managed to arrive early Friday afternoon—and even got set up before Kevin and Kim arrived, although they made some comment about how "some people have to work." We were no sooner set up when people drifted by, and sat down to share a beer and some wonderful conversation. It seemed that every-one in this good turnout was in a good mood this year, so the socializing was excellent.

Clouds on Friday night didn't allow much viewing. I took the camera over to the "entry field" after having visited the outhouse, when there was some clearing to the north, but by the time Dennis and I got back over there the clouds had pretty much ruined it. However, a big truck came in—a father and son team from Toronto who had never been to Fall'n'Stars before—and didn't know where to go in the dark, so we were able to greet them, give them a quick tour of where to park and then handed them over to Steve(?) who got them registered and settled.

Kevin (6:57 a.m. on Sunday): Brrrr! +2.2C.

Greg: Sounds pretty brisk for this early in September. But were the skies reasonable last night for you folks? It was all clouded in down here.

Hank: I was cuddled warm in my bed, visions of galaxies bright in my head! Newburgh was amazingly dark and clear at midnight.

Susan: Saturday night started out iffy but changed to a wonderful Milky Way lit night. Also several times over the weekend people were asking "Where is Hank?" or "What is happening with the Sun?...Hank would know." You were missed Hank.

I was horrendously tired during Saturday's talks but very much enjoyed them, especially Malcolm's presentation on the Atacama. I was coming down with a cold. Argh!! By 9:30 the sky was getting good for viewing, but as old as I am, I am finally getting wise enough to know better than to stand out in the dark and damp when not feeling well, and besides, I would be the least popular person there if I were to sneeze upon someone's telescope, so I crawled into bed, thankful that I had thought bring that extra comforter. However, I did not miss out entirely on viewing thanks to my middle-aged body that needs to wake me up in the middle of the night. At 2:30 a.m. I got bundled up and made that *loooong* trek over the outhouse, and coming back saw Malcolm taking images of the Gia-Italian-something comet [*Giacobbini-Zinner*], and by this time was awake enough to go dig out the camera and tripod and take some images of the sky. Within 20 minutes my toes were cold and the lenses were fogged over so I crawled back into my warm nest. I got up early, and yes, I can attest to the fact that one can indeed get dressed in one's bed under the covers. It was chilly, not "quite" frosty but about one degree above. I made myself a cup of tea and joined Kim and Kevin and Doug and Brian and heard some entertaining tales about applications of mathematics and how women in science were historically treated, along with horror stories of electrical wiring systems in houses. Once Dennis was up we tossed things into the back of my truck and headed home.

My task today is to download and share some photos of the event. There will be one thing noticeably missing in these images: Hank and his solar scope! Next year. We're already planning for next year.

Susan: Thanks to Belleville for hosting a great weekend. Dinner was relaxed and tasty!

Bruce: Janet and I really enjoyed the

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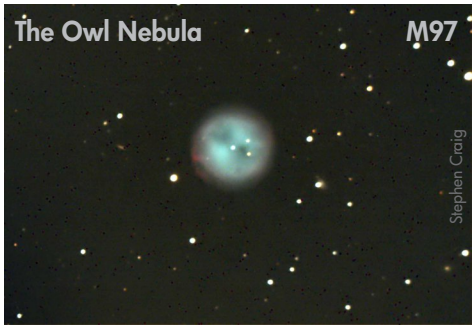
Observing Reports: May–August

Various Members

Sun/Mon, May 13/14

Stephen: I had a nice clear night Sunday night. I managed to get a good shot of M97, the Owl Nebula. It's a hard one to get a good photo of, faint and low contrast. My attempt at it last year was a failure. This year's attempt yielded a good result. I guess I've learned a lot since last year.

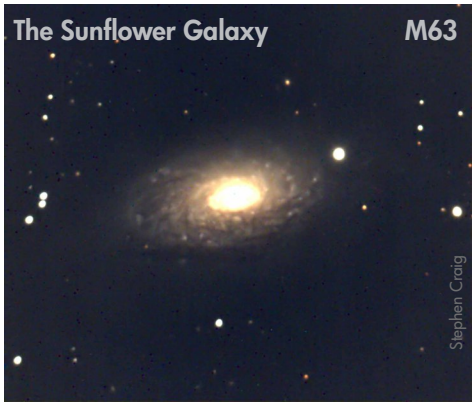


Rick: I like the faint red rim—I don't remember having seen that before. I also note the small nebula near the star to the right and a small galaxy to the left.

Walter: Isn't that actually a galaxy that is near the star? I think I can just see the nucleus peeking out from the right side of that bright star. Certainly that would not be part of the Owl.

Tue/Wed, May 15/16

Stephen: We have been blessed with a string of clear nights! I'm still busy taking galaxy photos. I took three photos last night. This is one of them, M63, the Sunflower Galaxy. The seeing wasn't great, but then neither was my guiding. It kind of averaged out. I'm going after more galaxies tonight.



Greg: Lucky you. It has not been so decent a bit further west. Glad you are getting good use of this rare blessing. Nice image.

Wed/Thu, May 16/17

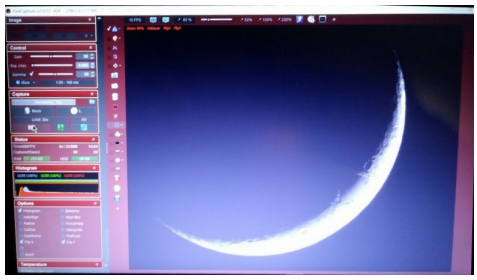
Stephen: I managed to get one image before the clouds rolled in this evening. This is NGC 4565, The Needle, in Coma Berenices. I'm pretty happy with the result as it was a quick shot. There are still lots of galaxies to image.

Thu/Fri, May 17/18

Kevin: Last night, day 23/23 of black flies, gave us a little break: the black flies are letting up a little—enough that we were able to setup in the driveway last evening to prep for the ISS lunar transit on Monday.

We had the Meade LXD55 mount, the Meade DS90 refractor, the ASI 120MC camera and the laptop. The telescope is powered by a Li-ion battery from Amazon, similar to the one we have at KAON for the NexSstar scope. I haven't touched it in a month or more and the charge was still 4/4.

I had some issues with the FireCapture software not finding or starting the camera, until I updated it to the latest version. I also used the 0.5x focal reducer filter screwed into the camera, and that enabled us to capture almost the entire disk, certainly enough for the Transit.



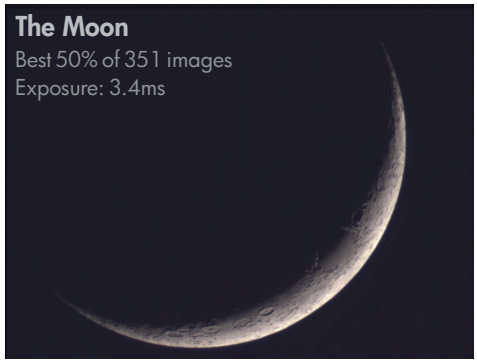
The laptop screen as seen by my smartphone.

I could not achieve an image of the earthlit side, as the sky was still too bright.

I also grabbed a few images of Venus, moved down the driveway some more to try to get Jupiter... and the laptop battery died. Hmm... the old refurbed laptop is my normal plugged-in desktop computer. The battery lasted maybe an hour in the field. Not great. I will bring along 110Vac adapter and an inverter for the car on the road trip.

I was doing 5ms exposures and it blown out. I did a bunch of varied exposures from as low as 0.7ms up to 50ms.

It was great to be out!

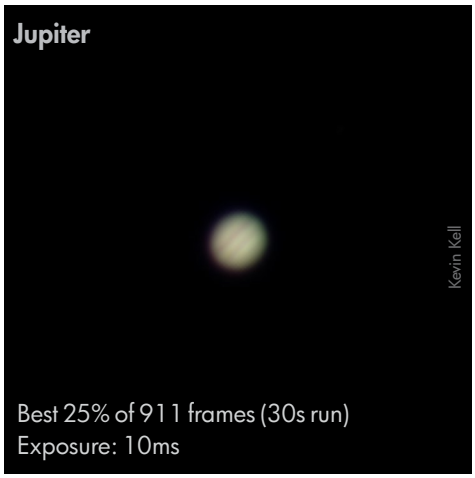


Fri/Sat, May 18/19

Kevin: I had the first imaging run in the backyard with the Meade DS90 refractor (800mm focal length) and the ASI 120MC camera. It turns out that size does matter and this setup was pretty much useless: the main equatorial belts barely show up, and no other detail is present. This is a stark contrast to the results had with the 20cm scope at f/20 (4000mm).

SIZE MATTERS! This is the

best 25% of the frames capture of Jupiter, 10ms exposure in 30 seconds with 911 frames. No focal reducer, no Barlow. 200x200 pixel image with Jupiter much smaller, maybe 30 pixels in diameter.



Kim: At least he saw it. After getting the mount realigned, Jupiter was still too low too see it in the observatory.

Mon/Tue, May 21/22

Hank: I just stepped out 5 minutes ago to the cloudy sky and watched the ISS dimly shine through and close pass the Moon as predicted on the page I showed at the May meeting. I did not synchronize for time but would say it was on target. Even though it was cloudy it was thin enough to see the event and was worth going out for.

Saturday, June 2

Hank: Regardless of my solar minimum blahs I went out for some afternoon observing and it was relaxing and rewarding. A little solar white light at tiny AR2712, Venus in 80% phase, an almost full Mercury at magnitude 1.89 and only 4° ahead of the Sun, along with the starry twinkling of Sirius and Capella. I like the stars in the daylight—they look very different from the night. Of course my most important observation was H-alpha; it appears we have some activity coming over the NE limb while 2712 is struggling to stay alive until it rotates off the west, and some decent prom activity in the SW. The sky was nicely clear so it was overall a good afternoon.

Kevin: Kim & I drove over to the Venus transit site south of Newburgh (staying on the public road part and not trespassing) to observe and image the transit of the Sun by the International Space Station. Neither of us have witnessed this event before and it is on both of our observing bucket lists.

She was using her regular Solar scope, a Bausch & Lomb 4000 SC (fl=1200mm) and an eyepiece, and a Thousand Oaks glass solar filter. I was using the Meade LXD55 mount, Meade DS90 refractor (fl=800mm), the ZWO ASI120MC camera with a 0.5x focal reducer, a Windows 10 laptop with FireCapture 2.6.0.8, and a Baader film solar filter.

The event was set for 20:03:52 from transit-finder.com. We arrived about 15 minutes early, turned on cell data and the atomic clock app to get hopefully sync'd time and started to setup. Last time I used my setup was last August in Wyoming...and I was short a critical part to mount the solar filter. Kim found some scotch tape and we quickly attached the filter and crossed some fingers that it would stay put.

The Venus transit site has the only good NW horizon that we know of. The Yarker baseball diamond has a good SE horizon but with some local trees often in the way (I had to climb on top of the minivan last time to get a clear shot).

I started the video .avi recording ~30 seconds before the event—good thing too, as the event seemed to occur 3–5 seconds before prediction. It could have been the cell phone time as well—we forgot to bring the *real* shortwave atomic clock.

The other issue with imaging: even with 800mm and a 0.5x focal reducer, the entire disk of the sun did not fit into the field of view. There was a sunspot, 2712 on the disk, so I focused on that.

The ISS track had been shifting southward over the last few weeks and to get a centreline pass we would have been close to Napanee, but with no good horizon. So it would be a shorter chord pass, but where on the Sun? I took a guess and guessed wrong. It did get imaged at multiple FPS but on the top edge of the screen. I think we might have missed 1st contact and 2nd contact but have the middle bits.

The event was *fast*: 3 seconds still as it was far away and the apparent motion was fairly slow compared to an overhead pass. 22s of 1280 x 960 video was captured (full resolution). The exposure was around 0.3ms per frame.

Hank: Fantastic, you got it! Now you need to book off June 20th and get the afternoon Lunar transit! The ISS will be double the size and still almost 2s duration.

It appears you also got a big or close bird as well just prior to the pass from lower right to upper left, cool.

Kevin: Yes, something else flew by bottom to top, not visible in real time. I'm still trying to get frames blown up to see how much detail was seen.

Yes, the lunar ISS transit is the next big item, although I would like to do a bunch more solar as well! The

exposure was a guess based on the sunspot, but it still looks a little dull and underexposed, but I think over-exposing may lose the ISS?

Hank: I have separated the frames and run auto-exposure for better contrast; it is interesting even in this condensed batch to see the shape changes of the ISS. Whether it is due to optics or clarity, there are a few frames that show more the shape one would expect, which leads me to believe it is more the true shape. I did so to the bird frames as well and I think we should discuss it no further, as it appears to be a Klingon Bird of Prey.

Fri/Sat, June 15/16

Stephen: I managed to get a decent shot of the Eagle Nebula. The seeing wasn't great but acceptable. My rendition isn't nearly as sharp as the Hubble picture, but then my telescope didn't cost several billion dollars! I'm happy with this shot.

Tue/Wed, June 19/20

Greg: Finally, some clear skies here at foggy bottom. One of the things I looked at was M8 with my DS16c on the VRC6. (This is a single frame, with just a bit of curve touch-up afterwards.)

Wednesday, June 20

Hank: I caught the ISS lunar transit with my BB, quality and focus is poor but what the heck I got it. Just a white light crossing centre right to bottom left. Here are a few images:

Susan: Great, Hank! You can still see it. Nice job. Were you able to see it as you snapped photos, or did you have to wait for the pictures to see if you had it? It seems to me it would be difficult.

Hank: I figured I missed it for sure until I got it on the desktop and watched closely. I did not 'see' it at all.

Kevin: But you got it! Congrats! That also answers my question 'Is the ISS visible naked eye in the daytime?' No!

I was crossing City Park, heard my alarm, tried to find the Moon amongst the trees, and then I got out the phone, and started the video at 4x optical zoom. I suspect it was well past the transit unfortunately.

Thursday, June 21

Susan: The Clear Sky Chart shows late morning to be a very stable time to capture some of the finer details, I think?

Hank: Given the surface activity it

Calibration Frames

Wed/Thu, June 20/21

Stephen: As we have a few clouds tonight I'm spending the night taking dark calibration frames. Taking a bunch of dark frames is much like watching paint dry though not quite as interesting. I tend not to take dark frames more often than absolutely necessary.

Greg: Funny... I do mine during the day with a cap on the camera. I have a small library of frames for different exposure durations and combinations of binning and live stacking. Some of these are huge...

(And yes, it is just like watching paint dry. Good time for observatory maintenance (spider spray, etc.) and catching up on Farcebook.)

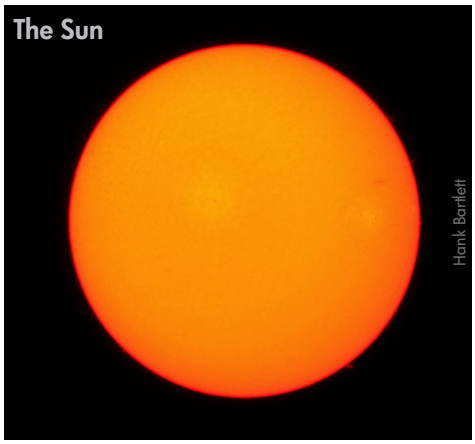
Rick: I usually do mine after I finish a night's observing starting about the time nautical twilight begins. I park the scope, close up the observatory, put the cap on the camera and start shooting bias frames and 300s (or sometimes 400s) dark frames. Then I go back to bed—no sense watching when the computer can do that much better than I can. I usually do 25 of each. I do a set 2 or 3 times a year - primarily with the season changes when I have to change the camera temperature. The camera can't get much below –10C in the summer and in the winter I usually shoot at –25C both for lower dark current and so the ambient temp doesn't too often get below the camera temp. I have woken in the morning to find my camera at –30C with the cooler off.

I should add some other comments: shooting in the daylight can be a problem with some cameras—they leak light and that can make for very bad darks. I would shoot some in the dark and some in the light and compare them to make sure your camera is light-tight.

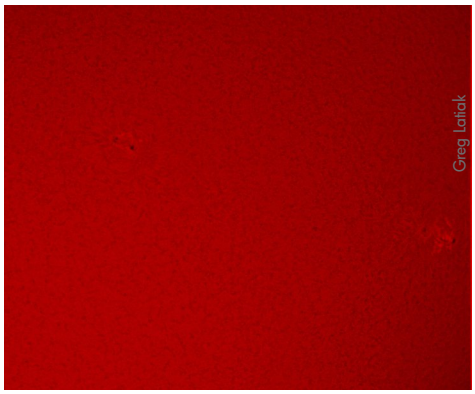
Also, there are some who say that bias and dark frames should be shot at similar ambient temperatures to when we are shooting our science images. That the temperature of the electronics (which aren't cooled like the chip) has an effect on them.

Also, if you shoot bias frames as well as dark frames you can scale your darks to your science images rather than have a dark frame for every image duration. I can go into more detail if anybody's interested. And I'm not sure about Mallincams and what they need/can do in terms of bias frames, what are the implications of live stacking, etc.★

may be a good morning then. Thanks Susan. Here is a sample from today.



Greg: H-alpha, 100 video frames at 1.5ms, RegiStack and a bit of touch-up in PhotoShop:



I had installed a better focusing motor in the scope and was using a planetary camera with fairly tiny pixels. I zoomed in on the spot and nudged the focus until the inner detail was visible amidst the usual atmospheric bucking and weaving, then grabbed 100 frames of high-res video and threw away all the frames where the inner detail was fuzzy (most of them), followed by RegiStack and a bit of wavelet to sharpen the edges. The very short exposure helped a lot at capturing those moments of clarity. Made me happy...and it was nice to have something to look at.

Thu/Fri, June 28/29

Kevin: Reviewing the nightly AllSky2 images of bright meteors, we came across this *nice* meteor at 01:24 EDT. Needless to say, we were not awake to see this but perhaps some of you were. This was about a 3s event from overhead moving east to west (north is up). The two bright objects near the eastern end may be Jupiter on the bottom and Arcturus on the top.

Greg: Yep. Showed up in my AllSky as well. Nice.
Hank: Beautiful! What a great surprise when reviewing the overnight images.
Kevin: Hmmm. Looking at AllSky1's output from last night suggests it is failing. Oh well, it's been a good run and will be incentive to design and build a newer system.

Fri/Sat, July 6/7

Hank: I was out for 4 hours and it was quite good; had the Mak90 and the C80 on the MTII. We had a group of friends and a student from Mexico City. Showed them Jupiter, Saturn, Mars, M13, Alberio, Arcturus, etc. It was a fun night along with 3 million mosquitoes! Mars was just up when we quit so it was in the muck.
Keith: Well you were lucky Hank because tonight night sucked for me: I could not get a clear view of anything. It looked like Jello having a tantrum.

Sat/Sun, July 7/8

Kevin: Astronomy in the summer: in a word, sucks! The mosquitoes have driven us in within minutes every night. And it has been over a week since the last rain. Where do they keep coming from? (Hank: Di says rub some Vick's Vaporub behind your ears and on ankles and wrists to deter mosquitoes.)

This morning we went out around 07:00 EDT to set up for the ISS transit across the Sun, directly over our location. Kim had her Meade 102 SC with a Thousand Oaks filter, Orion Starshoot camera with a 0.5x focal reducer and the Coronado SolarMax 60 to watch visually. I had out the Sony Handycam with Baader solar filter and the old Canon DSLR with 70-300mm lens and a 58mm polymer solar filter.

The Baader solar filter had broken straps, so out came the gorilla glue in the backyard to re-attach. It has a tiny bit of Baader material set in a 35mm slide mount with velcro straps glued on that attached to velcro pads on the camera. It had light leaks in the sides so I added some sticky window weatherstripping. Then the Baader film came loose and became loose and wrinkly. As an end result, the image of the Sun was sharp on two sides and fuzzy on the perpendicular sides. I manually focused at infinity and dropped the autoexposure so I could underexpose a lot to prevent the Sun from being blown out. The DSLR turned out to not have a very good burst mode continuous shooting at all.

End results: Kim got the video and saw it visually—1.55s transit time. I got nothing from the handycam video and only 1 frame from the DSLR. It's the slight fuzzy spot just inside the disc at a 10 o'clock position.
Keith: I have been out the last couple of nights also, and could not see a damn thing. The air was too disturbed. I focused on Jupiter, but it was just a blob that kept changing shape. I used both scopes to verify that one did not have a problem, so as

usual "visibility nil!" and yes the mosquitoes came in swarms; as you wiped your arms you killed them by the dozens.

Malcolm: I'm not doing anything these days. I don't have the energy to wait up until it's officially dark at 11:30 p.m. I don't like only having 4 hours of darkness to work with. And I don't like the mozzies which, as you say, seem a tad extreme this year. I'll likely do some imaging at Starfest, but nothing from my backyard until September.

Mark: Another reason I love winter. No mosquitoes, lots of dark time. I can get in an hour of observing while dinner is cooking, take a break and then get back at it. And cameras are naturally cooled. What with skiing, what is the downside?

Rick: I've been doing my usual thing: photometry with the 40cm. I start with twilight flats shortly after 9 then start imaging shortly after 10 as nautical twilight tapers off. Things are running better in the observatory (mostly by re-routing the main cable bundle so it is well clear of the mount on meridian flips) so I can literally go all night without going out to the observatory. It's nice too with the short night that I can take up the whole night with only two or three targets so I can get up to 6 total hours of sleep wedged in between changing targets and shutting down. I go out and close up the observatory about 4:30. Occasionally I'll immediately head off canoeing in the twilight for an hour or so, but generally I go back to bed to get the rest of those 6 hours. Night number 54 for this year is underway.

Rose-Marie: The downside is freezing your toes and backside off!! I'm remembering some sessions where it was twenty frickin' below and I was stumbling around over icy snow to a spot where I would fumble around with thick mitts and waddle with big boots, socks and knitted wool socks, overpants, big coat, scarf, hat and hat liner, all with took a half hour to get those layers upon my body. I'm remembering cold stinging my face and fingers stuck to the camera and difficulty focusing the camera because if I wasn't careful where I breathed—the vapour from my breath fogged up my glasses and the camera viewfinder. I remember clomping my way back inside to instantly fogged up glasses, fumbling around to get the camera inside a plastic bag so the condensation wouldn't hit it, and peeling off layers of winter clothes while the camera warmed back up, and my toes stinging when they started to warm up again.

I'd rather have mosquitoes. There's this stuff called bug spray that keeps them away.

Mark: All joking aside, bug spray can be hell on plastics. The previous owner of my DSC (Deep Sky Setting Circles) made a real mess of the casing for these electronics, probably part of the reason I got such a good deal on the G11 mount. You can weld plastics together with the stuff or have them stick to your hands. You have to be really careful with it, especially given the amount of plastic used in today's electronics.

I find that in The Observatory, Thermacell works very well at keeping mosquitoes at bay. I still have not figured out how to deal with the oppressive humidity.

Cathy: I remember decades ago, when I was passing through Sharbot Lake, and Leo and Denise suggested I meteor observe there for the evening, and Leo brings out his mosquito repellant: a huge honkin' fan about 3 feet high! Wow, no bugs!

Sun/Mon, July 8/9

Hank: Beautiful ISS pass this morning, I took video in the C80ED with Baader film while watching in the SM60 Hα. Using only my BB to video does not give good image but at least I captured it. I used lunar focus (the Moon was up) rather than solar to try and get the ISS better; next time I will try sub-lunar if it is available. Here are 4 small files [*stacked—Ed.*] which have been edited slightly for detail and contrast:

Kevin: Nice! I forgot to check. We were out Sunday evening for about an hour before being driven inside by bites. Then I went back out at 01:30 and the mosquitos were much better (fewer), but still there. Finally, I saw Mars and Saturn in the trees. I got some nice shots of Sagittarius as well.

Tue/Wed, July 10/11

Stephen: Sometimes the Clear Sky Chart can be annoyingly accurate. I was hoping it would be wrong and we would get a clear night tonight. But the cloud is stubbornly holding its position over our area.

[*later on...*] Sometimes it pays to complain about the weather. I got my clear night! Already have my first image in the bag; all set for more!

Rick: Oh man, I've got so much work to do during the day that I'm trying to tell myself not to observe (I need to get the roof closed in before we get any rain.) I managed to do that last night because I could see patchy cloud (probably afternoon cumulus

that would evaporate but I carefully ignored that) that I thought might be a problem so was able to convince myself to go to bed. But I don't think I will be able to do that tonight. So complain away Steve.

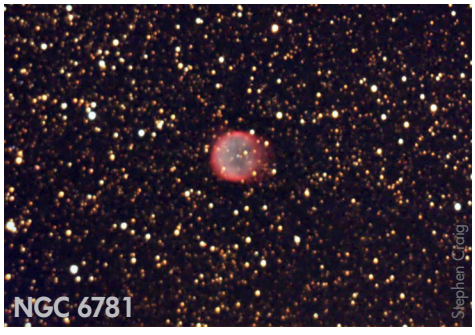
Tuesday, July 3

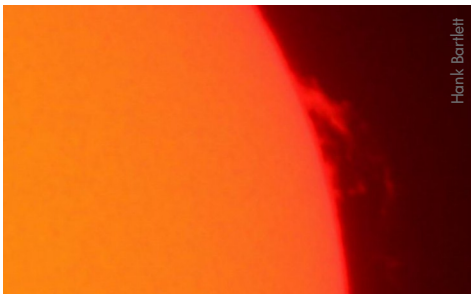
Hank: If you have H-alpha solar, get out there! This image is cropped only, no processing:

Keith: I did not see anything out there today. It looks like only yesterday was good.
Hank: There was a small bit left in the same area around 10:30. I doubt it will erupt again.

Wed/Thu, July 11/12

Stephen: I've been taking a lot of images of globular clusters lately, mainly because they are fast and easy and I've been working on my goal of imaging all the Messier objects. I still have a long way to go on that endeavour. But I took the time last night to image NGC 6781, a planetary nebula in Aquila. It's a more challenging subject, being faint and low contrast. But I think this image turned out pretty well. I almost didn't get it as scattered clouds moved in after my first two exposures. This is a stack of two 15 minute exposures, 2 x 2 binning.



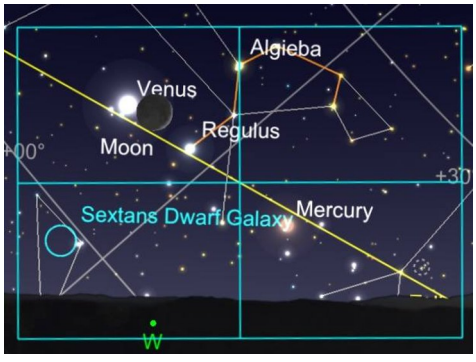


Keith: I tried to get the best picture of Mars that I could. Dew arrived shortly after.

Paul: Thank you very much for posting this picture. It is vastly reassuring to know that there are other astronomy enthusiasts who aren't producing perfect astrophotos! Perhaps, at some point, I shall post an image or two of my own (of dubious quality I'm sure). At least it is clearly Mars, and not a traffic signal or a transmission tower.
Keith: I looked at it, did not know it was my picture. Although it is now round instead of oval, it is still blurry, not clear like Steve's nebula!

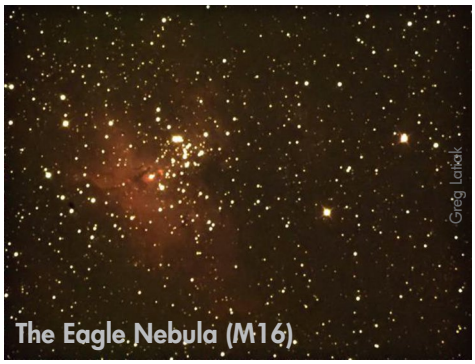
Sun/Mon, July 15/16

Malcolm: It is looking good for the conjunction of Venus/Moon/Regulus /Mercury after sunset tonight. It should be clear, for a beautiful sight! The blue frame is the field of view at 9 p.m. tonight, off the western horizon using a full frame DSLR camera with a 50mm lens.



Rick: So glad you brought the apparition to our attention Malcolm. Jeanette and I went down to the dock about 21:30 last night. While the western horizon was quite murky (and Mercury was way around the point behind the trees in any case) Venus and the Moon (with Earthshine) were spectacularly beautiful, hanging just off the black of the trees on the point. We only lasted a couple of minutes before the mosquitoes found us and chased us back inside.
Rose-Marie: I had the camera and tripod ready, but to the west and south it clouded over at dusk...grrr...
Greg: Finally a chance to get out and try the new dome arrangement and the updated mount—installed OPW assemblies on both the RA and DEC axis. Seems to track better.

I looked at a couple of things while the sky conditions deteriorated from a so-so –24C sky temp to a –6C sky temp (about the time the ground fog started to form). These images of



M16 and M20 are 10x30s with the DS16c, with a bit of touch-up.

I just finished changing my Pod to use a different approach to moving the dome away for better zenith access. The dome is hung from a pair of barn door slides—almost effortless to open and close (ignoring the 40 pound lift of opening the visor).

Rick: Very ingenious. Now you just need to figure out how to counterbalance the visor.

Tue/Wed, July 17/18

Stephen: Last night didn't work out. I waited until 12:30 for the clouds to clear. I wanted to do the Helix Nebula but it was still in the trees. It had cleared the trees by 2:30 but by then the south was too murky. I'll try again tonight as the sky should be more transparent. The temperature was dropping so fast last night that I had to keep refocusing the telescope. Hopefully I won't have the same problem tonight. Note to myself: Time to cut down some trees!

Wed/Thu, July 18/19

Stephen: It was nice and clear with great transparency and good seeing. I got several good photos. The best was of the Bubble Nebula in Cassiopeia. This is a stack of five 20 minute exposures, binned 2x2.

Kevin: Nice! I especially like the nice tiny stars! (Something I have been having issues with.)

Rick: Very nice. Your stars are nice and small and round but there are several trailed objects in the field, all similar lengths, similar direction of motion but differing in brightness. I wonder what they are?

Stephen: I think I know what you saw. They are internal reflections [*circled*] of bright stars in the on-axis guider. I have since removed them.

Thu/Fri, July 19/20

Stephen: I was up all night again. Managed to snag a couple of difficult nebulae in Cepheus: the Iris and the Cave. I took a rough stab at centering the Cave as I couldn't see it very clearly. It turned out pretty well nonetheless. These are each stacks of five 20 min exposures, binned 2x2.

Kevin: It was wonderfully clear last night. We got home after the talk ran late and fell asleep whilst walking into the house. Maybe tonight. What's the forecast I wonder? (Afraid of looking...Schrödinger's clouds!)

Sat/Sun, July 21/22

Paul: Wow! I just watched an ISS pass that came up from the southwest, between Jupiter and the Moon, missing the Moon by (it seemed like) less than a degree, and then reached the brightness of Venus over to the west. Of all of the passes I've seen over the years, I've never seen one so spectacular.

Bruce: I saw it too from Deep River Ontario. Really clear and spectacular as Paul said!

Sun/Mon, August 5/6

Kevin: "The Cube" needs a better name. I got the doors on the new imaging platform last night, set up the scope and tested it out. The scope is still working. I was hunched inside with arms out overhanging the walls to look at Jupiter—it's not behind the trees anymore! And that was goal #1 of the platform further out in the back field.

The platform is a 4'x4'x4' and a bit, and is without a roof at the moment. That is this morning's job. I thought about naming it something along the lines of a Borg Cube, but that does not translate so well.

Hank: Are you still thinking about siding? My next trip into town I am going to look at some. I know that Jan Wisniewski just used a couple of coats of white paint on his OSB walls and that's what we will at least start with, but siding is always a possibility down the road—especially before the gales of November and the sleet of January comes blowing by.

Hank: Unfortunately the resurfacing of the pool deck and rebuilding of the associated deck to the house has completely annihilated any astro-budget for this year and next, so paint it is.

Glad you have re-located and it has tested out ok. You could name it Pandorica but then you couldn't open it for 2,000 years and the paint job would be a challenge for sure.

Rick: Once you have it painted to protect the wood I suggest you strap it

(vertically) and put vinyl or aluminum (lighter, but more prone to damage) siding over it. This leaves vertical channels behind the siding which allow cooling air-flows to keep the inside of the observatory much, much cooler in the sun. (I need to do something similar to the roof.) I did this on both my observatories and they stay within a couple degrees of ambient even on the hottest days.

Rose-Marie: I was down on the dock last night, actually took a few quick shots of Sagittarius and Saturn before the haze rolled in from the south. Saw a couple good meteors but of course the camera was pointed in the wrong direction.

Wed/Thu, August 8/9

Rick: We went to Tom Ray's talk at QUBS. It was great, perfect level for a non-astronomical crowd. He also told people to go out to see ISS cross the SWrn sky shortly after 9 p.m. the next evening. So, after dinner, after our walk, after stopping for some groceries, we parked at the RMC inflated sports dome and watched the ISS cruise just above the clouds to the S and just below Venus and Jupiter. Very cool.

Thursday, August 9

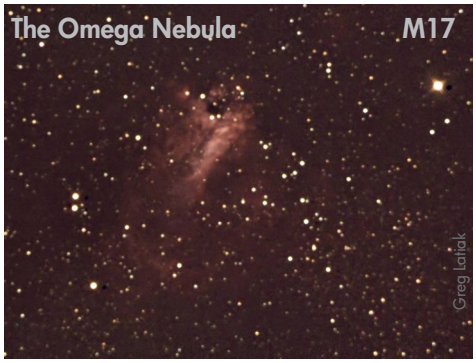
Rick: Jeanette and I both had a great time last night. The food was very good, the company was great, lots of fun. We definitely have to keep up these summer dinner get-togethers.

Fri/Sat, August 10/11

Susan: I saw a couple of good Perseids along with a sporadic or two. Really had more bats and fireflies, but it was all good. It is funny what passes for a cold night this time of year.

Rose-Marie: Yes, 'twas a very nice night last night. I sat at the campfire for a while with three nice families, happy camper visitors with four kids. They're all from west of Toronto where the light polluted skies don't let them see the stars; they were marvelling at the Milky Way. I pointed out Jupiter and Saturn and some of the constellations and was telling them about the Perseid meteor shower. We did see 3 or 4 meteors, the kids just loved it. I also pointed out a couple of satellites passing by. I had set up the camera looking over the lake on continuous shots, didn't catch a meteor that session, but later I came up to the house and pointed the camera at a gap in the trees to the north and caught one wee meteor.

Greg: Tonight was decent for a few hours. I had a chance to test my upgraded mount and the efficacy of the new dome arrangements. And the Amherst Island official bird, the mosquito, was not too bad for a change. SQM ran around 21. A pity I had to catch the 9 a.m. ferry Saturday morning. Here are M8 and M17 after a bit of touch-up in Photoshop:



Susan: It is nice to return to a bit of observing. I got out between 3:30 and 4:15 a.m. to take in some of the meteor show(er).

The other day I spotted a record for the SQM from 2008, July 3 at 23:00 hours in my back yard: 20.40. Not great, but I'm pretty sure it is not that good now.

Sat/Sun, August 11/12

Rose-Marie: The skies out here north of Perth Road Village were good, although it was hazy/cloudy to the south. I set up the camera again but the battery didn't last long, and I didn't get many meteors. Sat at the campfire with the happy campers again; we saw a few plus several satellites. I set the alarm for 2:15 a.m. and went down to the dock with the camera. It was clear to the north but I didn't see any meteors until after a half hour when I packed up to back to the house and my warm bed. As usual, as soon as I started walking back saw a good one.

Sun/Mon, August 12/13

Kevin: It looks like a pretty slow year for the Perseid meteor shower. Below is the summary image from the SCGO AllSky2 camera system, a composite of ~55 events overnight. Below that (next page) is my visual observing record from 21:33–23:01 EDT.

Kim went out after midnight and had much more success.

Hank: We saw one beautiful bright one when we were heading to

Observed Perseid meteor shower Sunday night 2018 August 12

21:33 Perseid 10° slow white mag 0
21:34 Perseid 15–20° slow yellow mag -1
21:49 Comment 18C cloud, poor transparency, poor seeing; waiting for Mars coming up over observatory walls –2.6 mag. Saturn over Sagittarius in the south, mag 0.3 Jupiter in behind ash trees in SW already, Venus far in the west behind house.
22:00 Sporadic fast dim mag 3–4 10°
22:08 Sporadic near Vega <5° white mag 1
22:09 Comment low flying aircraft with landing lights on from SW to ENE
22:12 Perseid bright mag –1 yellow 25° train
22:13 Perseid down south 15–20 deg white mag 0
22:17 Perseid short, 5° mag 2
22:17 Perseid mag 0, 10–15°
22:18 Comment brightening satellite SSE to NNW—short iridium?
22:18 Comment satellite NW to SE through Cygnus, fairly bright mag 1
22:20 Perseid short dim down cygnus NS <5°, Mag 1
22:21 Sporadic < 5° slow dim, mag 2
22:23 Perseid huge trail 40–50° NS yellow bright Mag -3
22:26 Comment temp to 16C, massing cloud in the east coming our way
22:27 Perseid down milky way towards Saturn 5–10° Mag 1 yellow
22:32 Perseid NS 10–15° Mag 1; coyotes to the SW
22:34 Perseid 20° mag 1 NS
22:42 Perseid bright yellow mag –1 overhead 15-20°
22:45 Perseid NS almost overhead 10° fast white mag 1
22:46 Perseid 20–25° trail, fast white mag 0
22:47 Perseid overhead 25° yellow mag 0
22:48 Sporadic white <5° mag 0
22:49 Sporadic <10° white mag 0
22:52 Satellite NS flare bright and fast Mag –2 or –3, repeating twice dimmer near Vega heading south. Still mosquitoes.
22:56 Comment time to go in, no fireflies, not a lot of Perseids, maybe ZHR 15
23:00 Comment flashing satellite near Altair, 4 flashes, first 2 bright SN approaching Vega
23:01 Sporadic <5° white mag 2

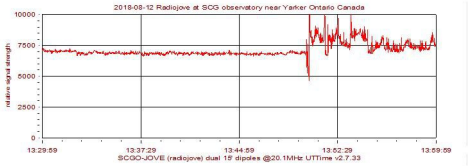
Summary: 21:33–23:00 or 87 minutes | Perseids: 15 | ZHR = 15/87 * 60 = 10 | Sporadics: 6

Pearson about 10:30 EDT. On the way home (left Pearson at 00:45 EDT) once we got out of TO we saw about 8 on the way home and 5 more from the back deck at 03:00 EDT. If I didn't have to get up at 9 I would have stayed out for more as there were some really nice ones and it was perfectly clear with a bright Milky Way.

Rose-Marie: Dennis and I went down to the dock around 10:30 p.m., as I was setting up the camera a really bright one streaked down the sky over the lake before I could get the camera turned on. I didn't run a series on continuous shooting, just pointed at gaps in the clouds and would click now and then. Miserable useless (&%##%^&*()(& other unladylike words to describe that damnable cable release, when I wanted to click I had to wiggle the cord, thus missing out on two more really bright ones. I did catch the smoke trail of one them: it hung and then faded after a few seconds. We stayed out til almost 2:30 a.m. when both of us started falling asleep. I wanted to get back up around 03:30 but I had two cabins to clean this morning. It's guaranteed that when I have sparklies to look forward to, something has to interrupt my all-night sessions.

I haven't downloaded yet, maybe later today after I have a much-needed nap. The shower wasn't as good in previous years. Dennis and I didn't keep count but we did see about 30 to 40 and enjoyed the show. He stated a couple times that he was glad that it was warm, and we only had a couple of mosquitoes, probably because there was a hungry bat flying just a few feet over our heads. Blessed be the bats!

Monday, August 13

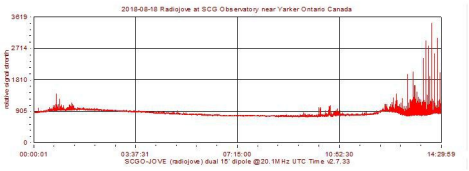


Kevin: The SCGO Radiojove radio telescope system was shut down on August 8th for relocation. The 50' of coax inside an old water hose, was pulled out of the ground and moved approx. 75' easterly from its former location. The orientation of the dual dipoles remained the same but it is now 'across the creek.'

The radio receiver and computer data logger were removed from the SCGO 'Faraday cage' (metal garden shed) and into an all wooden imaging platform structure with 120Vac power and wi-fi network access.

It was powered up yesterday and all seems well in the RadioJove world. You can see the data at starlightcascade.ca/radiojove, with a 30-minute graph and an all-day graph on display with some GOES X-ray flux graphs for comparison.

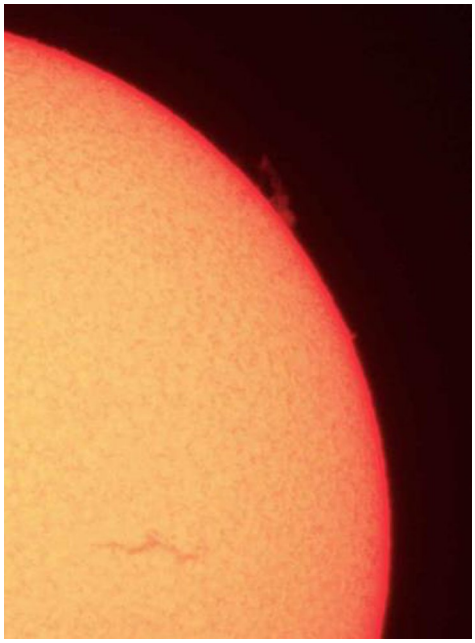
Update, August 20: It looks like we have most of the code working again and are getting 30 minute updates of the last 30 minutes and of the entire Universal Time Day (*i.e.* from 20:00 the night before, 00:00 UTC).



These are *really* nice to have during solar flare events. To date we have not been able to confirm any Jupiter radio events, but we will keep trying!

Sunday, August 19

Greg: The sky didn't seem too bad this morning and I saw the Sun wasn't totally blank: there was nice activity in a few places:



On the RASCals list: ***Frank Dempsey*** *reported smoke over southern Ontario Saturday evening, and said he couldn't see anything fainter than the summer triangle overhead. Given the increasing severity of forest fires, smoky skies may be a regular feature of our summer skies. The Clear Sky Chart has a link to a smoke map when smoke may be around.*

Sun/Mon, August 19/20

Stephen: I went after a comet last night. I was almost thwarted by scattered clouds, but I persisted and managed to get one five minute exposure of Comet 21P/Giacobini-Zinner. The comet was at about magnitude 7.3 when I took this. I didn't need a Barlow though I cropped the shot slightly.

Sunday, August 26

Hank: I got out yesterday for the first time this August but was cut short by a visitor. I did manage to get a few images but only two poor ones in white light with my BB and a few of Hα. Perhaps it will clear up today some time.

Kim: I have been following two sunspot groups over the last couple of days.

Wed/Thu, August 22/23

Kevin: A new imaging platform, The Serenity, is located further out in the back yard away from all of the tall trees. It started off as a full-blown observatory but over time shrunk down to a 4'x4' remote imaging platform only. It was completed a couple of weeks ago, and a RASCKC telescope was put in for configuration. It too has been packed away for some months.

Last night was the first time there was time available to align the telescope and see how the new handset behaved—wonderfully. Buttons pushed were recognized, as opposed to the old handset (15+ years old) which did not work well at all.

It was a little difficult to squeeze into the observatory with a diagonal and an eyepiece to do the alignments but in the end, Arcturus and Altair were centered and off we went to Jupiter with a camera installed.

All in all not too bad. An hour or two prepping and then waiting for dark, waiting for stars to come out, waiting for clouds to pass, and finally a rough alignment was completed.

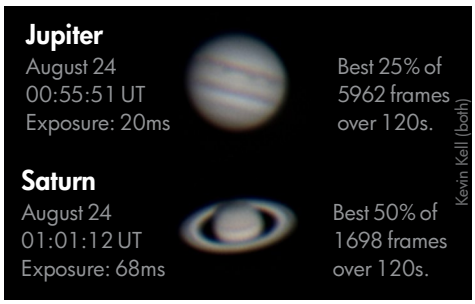
In the next 15 minutes I managed two 30s runs of Jupiter, one 30s run of Saturn and two 30s runs of the Moon. Unfortunately Mars was behind a (different) large tree. The mosquitoes were bad but once the alignment is finalized, I should be able to remote the imaging platform from somewhere inside, away from the

Mare Crisium (top), Mare Imbrium (bottom). Taken ~01:00 UT, August 23. 30s runs. 2ms exposures.

bugs.

Thu/Fri, August 23/24

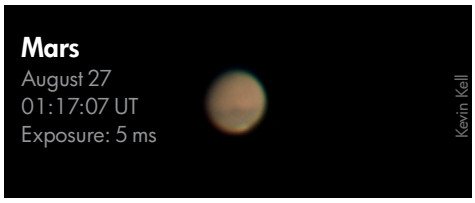
Kevin: Night #2 imaging in Serenity. These planetary images are probably the best I can hope for this season, as they continue to sink further into the west, lower and lower in altitude every day.



Sun/Mon, Aug 26/27

Kevin: Serenity imaging, day 3. I got another hour last night from when the stars came out until the mosquitoes drove me indoors. The humidity was high, transparency worse than poor, seeing poor.

I got a successful alignment with Arcturus and Altair (after 3 attempts), with pointing within ½° and good tracking. The full Moon was just coming up on the eastern horizon and Jupiter was about to disappear between our Oasis Ash tree.

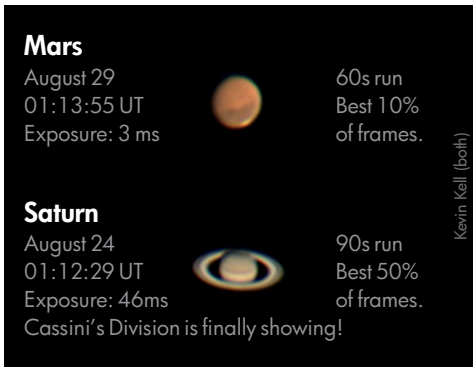


Jupiter was showing only the main bands, no real surface detail; Saturn at or near transit was showing one surface band, no Cassini's Division; Mars *was* showing some surface detail, mainly the south polar cap and some dark mares in the southern hemisphere.

Tue/Wed, August 28/29

Kevin: Another hour from when the stars came out until the fog and dew stopped the work. I am still commissioning. Walking out to the observatory, conditions were bad with high temperatures and high humidity/ground fog to a large degree and lots of dew. I imaged Mars and Saturn. Tonight's equipment was: no diagonal, ZWO ASI 120mc camera, no Barlow, no focal reducer, no dew shield, no dew heater.

Mars was the best 10% of the frames taken used to stack as seeing and transparency were poor, and Mars was still low in the SE. The south polar cap is showing as well as some dark features in the southern hemisphere.



Thursday, August 30

Hank: A few days ago I told Kevin to keep us entertained with his pics. I quickly replied he was hoping to motivate not entertain. Well, Kevin and Kim were at the RHA Observatory in Newburgh on Friday evening and motivated me to replace two wall panels and get half the primer coat on today. Thanks guys!

Friday, August 31

Hank: More primer coat today, plus I found that one of the interior guide wheel mounts had become loose. This is what was causing most of the scraping noise as the steel soffit was scraping on the north side; it runs much quieter and smoother now. I still have to add at least two outer guide wheels and primer the gables.

Rick: Good to hear you're out working on the observatory and things are working better. My job for today (amongst many others of course) is to install the pole for my weather station. It's a 12' 4x4 that I will embed 4' into the ground. Then, in coming weeks, an anemometer, SQM, and sky temp sensor will be installed on top and temp, RH, and pressure sensors in a small screen near eye level. All to be controlled by RasPi and Arduino feeding back to my home network. In theory.

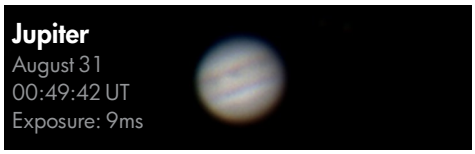
...Observing

Say, if you ever think about selling the 25cm Schmidt-Newtonian again, I could be interested. I'm preparing to install another observatory.

Thu/Fri, August 30/31

Kevin: I went out in the intermittent cloud and heavy dew to run a test of the Serenity Imaging Platform with a variety of Barlow lenses. The seeing was poor, transparency was poor, no mosquitoes(!) but dew was falling even as the Sun was setting.

Jupiter was still visible this early evening so I did a regular image run of 30s with FireCapture align on. This is the result, worse than past night's but some surface detail is there. Exposure time was up a lot due to the cloud and poor transparency.★



Letter to the Editor: DDO Chairs

Dr. Judith Irwin

I noticed with interest your little historical note from Don Fernie about the chairs at DDO, "Remarks from the Chair-Man."

I was the DDO tour guide at that time. Every Tuesday, I'd travel out to the observatory to run a tour for the public, give a short talk and show them around the huge clunker of a telescope. I was also the one who had to write "Please don't sit forward in your chairs—they tip" on the board each time. As you might expect, with people wandering in, someone would undoubtedly fall on the floor before I could verbally warn them.

I attended a departmental meeting around this time and various unrelated issues were discussed. As a graduate student, I didn't say much, but at the end of the meeting, Don Fernie asked if anyone had anything else to raise. I hesitated, but finally said, "Well people keep falling off the chairs at DDO!" I remember explicitly what he said, "Do you think anyone could be seriously hurt?" to which I replied, "No, I don't think anyone will be seriously hurt, but I do think that someone could be seriously angry." The chairs were replaced post-haste!★

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...Fall'n'Stars 2018

weekend as well. Great conversations and new people to meet! Kim taught me how to view the sun through my new (second-hand) refractor scope (a modest 2.5")! Even got a picture! Susan, I really liked your book "Celestial Sampler." Elena showed me on her scope some interesting dark sky objects I had never seen before. Thank you to all the organizers for making this a fun time for everyone!★

Meeting Comments: May, June, September

Various Members

May 10

Hank: What a nice and fun meeting! Sure we were a LITTLE late starting, sure some members thought we had abandoned them or got sucked into a black hole. I hope our guests from Calgary enjoyed the evening and have a great visit and return trip.

I think we should never place 16 dinner orders all at once again though. That said it was beverage free for at least some of us.

A big thank you to all of our members who brought images to show as well. I got home checked GONG H-alpha and there is a beautiful large arch on the WSW limb tonight and I hope it holds out until morning.

Rose-Marie: I was happy to finally attend a meeting, the last 2 or 3 it was snowing and I couldn't go.

June 14

Hank: It was a very enjoyable and informative meeting tonight, I understand much more the value of using the full spectrum of observation of the universe thanks to Nik. A great and observant summer to you all, see you in September. Kevin will have pictures!

September 13

Kevin: Back to autumn and the regular meeting of the Centre. We were back in the room I first went into sometime in 1989: MacCorry D214. It probably still has the same tables and chairs too!

Dinner at the Sports Tap and Grill was great. Arrivals were widely spread out, there was a new waiter, and not a single messed up order!

I think we can all agree that standard video projectors are just not up to the quality and resolution that we astrophotographers are now capable of—they always lack what you see at home on your own computer. This probably won't change for some time. Some rooms on campus are getting higher resolution LCD wall displays but they are only in the 55" range, much smaller than a projected image, even though they have more resolution.

Hank: I love being back in a small room, this in itself solves much of the "not-friendly issue" in allowing people to connect and chat more. I also like the observing reports. I'm basically just glad to know and associate with all of you for 25 years now. See you in November—October will be Hankless.★

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...Annual Meeting: November 8

DUTIES OF THE SECRETARY:

- ★ Compile meeting information each month and send to the Editor for inclusion in the newsletter.
- ★ Take minutes at Executive Board Meetings: Assign Motion numbers to minutes. Type up minutes and send out to the Executive, especially if there are actions. Note: We must have a minimum of three executive meetings a year.
- ★ Send out "Thank You" letters. This could be to speakers or members.
- ★ Update Executive and Members' Manuals. (The entire Executive will help with this, as everyone's input is needed to do this effectively.)
- ★ Send in the Centre Annual Report to national office by Feb 15th. This report goes to the Executive Director and the National Secretary. This report will appear in the RASC's Annual Report.
- ★ Send welcome letters to new members listed in the national office reports to centres.
- ★ These come out once a month, and the Treasurer passes them on to the Executive list.
- ★ Be on the Executive email list and contribute. We all help the Centre grow.
- ★ Help with any special projects that may come up.
- ★ Attend Board meetings in person or via Internet.

DUTIES OF THE VICE PRESIDENT:

- ★ Help with meetings when the President is away.
- ★ Send out hard copies of newsletters to members who wish to receive them in that format.
- ★ Promote Centre meetings in local newspapers.
- ★ Maintain the Centre's facebook page.
- ★ Be on the Executive email list and contribute. We all help the Centre grow.
- ★ Help with any special projects that may come up.
- ★ Attend Board meetings in person or via Internet.

DUTIES OF THE LIBRARIAN:

- ★ Maintain an up-to-date list of library books.
- ★ House the library. While this has been the custom in recent years, it is not a mandatory duty.
- ★ Procure new additions to the library that may be used by members.
- ★ Help with any special projects that may come up.
- ★ Attend Board meetings in person or via Internet.

DUTIES OF THE EDITOR:

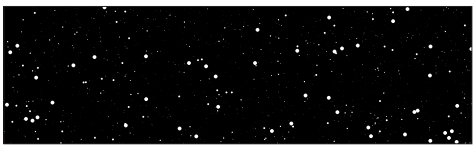
- ★ Solicit material for the newsletter.
- ★ Produce the Centre's newsletter, Regulus, using the software of your choice. Ideally 10 issues per year will be produced (monthly, except for July and August).
- ★ Post the newsletter to the website.
- ★ Help with any special projects that may come up.
- ★ Attend Board meetings in person or via Internet.

DUTIES OF THE WEBMASTER:

- ★ Maintain the Centre's website. (Currently our site uses Drupal 7.)
- ★ Do upgrades and add modules when necessary.
- ★ Help with any special projects that may come up.
- ★ Attend Board meetings in person or via Internet.

DUTIES OF THE NATIONAL COUNCIL REPRESENTATIVE:

- ★ This person acts as the liaison between the Centre and the Society.
- ★ Attend NAC meetings either in person or by phone.
- ★ Report back any items that effect the Centre and its members. The Centre executive will discuss any such items, and any concerns arising from this are taken back to the NAC for clarification or answers.
- ★ Attend the Annual General Meetings at the General Assembly. This is covered through the Travel Policy of the Society, and the Centre will cover up to $200.00 of travel expenses.
- ★ Help with any special projects that may come up.
- ★ Attend Board meetings in person or via Internet. ★



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...News

the Queen's Inn Pub (as usual) and Cielo was on at 8:15 p.m. at the The Screening Room.

(*Your editor was very impressed at the proximity of the parking garage, pub, and theatre! The only it could have been better is if there was a way to get from the garage into the pub without going outside!*)

Hank: Wow, certainly not what I expected but very enjoyable. Glad to see all o' my RASC buddies there and to share dinner with the likes of Walter and Dieter as well. It would be very nice to do this again sometime if a movie of astronomical interest is shown.

Dieter: Sounds like a great idea! I too enjoyed seeing everybody.

Susan: Thanks to Rick and Laurie for getting this together! Very enjoyable evening.

Kevin *reports, after he and Kim saw a sold-out screening on September 5th*: As some have mentioned, it was not what we were expecting, but it was still entertaining and worth seeing. Enough glamour time-lapse shots of the southern skies, Milky Way, ALMA, and many other observatories in the Atacama Desert. I loved the unexpected segments of local interviews, as well as the astronomer interviews. I was impressed that the narrator speaks English, Spanish, and French well. ★