

The RASC is celebrating its sesquicentennial in 2018. Be sure to visit rasc.ca/2018 and check out all of the upcoming podcasts, activities, and events.

Upcoming Events

- Thursday, February 8. 19:00
Regular Meeting
- Saturday, February 10 19:30
KAON Session
- Thursday, March 8. 19:00
Regular Meeting
- Saturday, March 10 19:00
KAON Session
- Thursday, April 12
No meeting in April
- Thursday, May 10 19:00
Regular Meeting

- Meetings are held at Stirling Hall Theatre 'A', 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. ★

Reports and Other Items

New Member Website

From **Stephen Craig**: I've posted the best of my photos to my website:

stephencraig.ca/Astronomy.html

I figure they are better there than posted individually in email. I have annotated them all with processing and exposure data. I'll update as I get more photos.

In Memoriam

Thomas Bopp (of Comet Hale-Bopp fame) has passed away at age 68.

Dave McCarter remembered him in a recent RASCals message:

That is sad. Tom came to Starfest while his comet was still very visible and what a party guy! He helped me make a huge Texas Chili, which included several cans of jalapeno peppers, and it was all enjoyed at London's Friday Night Potluck. When things got a little too quiet late at night he would make imitation wild beasts noises, and he got the

local cows going for a while. I enjoyed meeting him. A real observer's observer. Knew the sky well, and what a legacy, to have your name attached to one of the brightest comets ever. Rest in Peace Tom.

Big Banquet

Kevin Kell reports: We had a great time and our only regret was eating too much too late. Our dinners are usually much earlier in the day.

Wow. Good time, good venue. Prices maybe a little high on first glance but I think back to the times of served-at-the-table banquets at the Portsmouth Olympic Harbour and I am pretty sure those were on the \$25–30 order back 10+ years.

There was a good turnout: I think the count was 26 warm bodies. Thanks for all the door prizes (about 15). It was great to see some of you for the first time in ages.

Rick: We too had a great time at the dinner, ate too much but didn't regret

From Kingston Centre, the RASC, and Beyond

it for a second. I like the buffet format: people can get up and move about, you meet people from other tables out at the buffet. I was going to suggest that people try taking small servings and sit in a different place every time they come back from the serving tables but I wasn't sure people would take kindly to being told how to eat at a buffet. I also wish we could encourage people to mill about more before and after dinner so we get broader socialization. ★

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A Couple of Poems

from C.L. Hall

THOUGHTS ON A COLD WINTER NIGHT...

The following poem is from the book *A Child's Garden of Verses* by Robert Louis Stevenson, published in 1928. This poem is called 'Escape at Bedtime.'

"The lights from the parlor and kitchen shone out
Through the blinds and the windows and bars;
And high overhead and all moving about,
There were thousands of millions of stars.

There ne'er were such thousands of leaves on a tree,
Nor of people in church or the Park,
As the crowds of the stars that looked down upon me,
And that glittered and winked in the dark.

The Dog, and the Plow, and the Hunter, and all,
And the star of the sailor, and Mars,
These shown in the sky, and the pail by the wall
Would be half full of water and stars.

They saw me at last, and they chased me with cries,
And they soon had me packed into bed;
But the glory kept shining and bright in my eyes,
And the stars going round in my head."

THOUGHTS ON OBSERVING THE SKIES...

The following poem is from the book *The Poetry of Robert Frost*, the complete poems. This selection is part of his 'Five Nocturnes', and is called 'On Making Certain Anything has Happened.'

"I could be worse employed
Than as watcher of the void,
Whose part should be to tell
What star if any fell.

Suppose some seed-pearl sun
Should be the only one;
Yet still I must report
Some cluster one star short.

I should justly hesitate
To frighten church or state
By announcing a star down
From, say, the Cross or Crown.

To make sure what star I missed
I should have to check on my list
Every star in sight.
It might take me all night."★

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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RASC-KC Board of Directors

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| President: | Rick Wagner |
| Vice President: | Kevin Kell |
| Secretary: | Kim Hay |
| Treasurer: | Susan Gagnon |
| Librarian: | David Maguire |
| Editor: | Walter MacDonald |
| National Council Rep: | Rick Wagner |

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| | |
|-------------------------|------------------|
| Awards: | Kim Hay |
| E-mail Lists: | Kim Hay |
| Equipment: | Kevin Kell |
| Fall'n'Stars: | Greg Latiak |
| KAON: | Susan Gagnon |
| Social Convenor: | Kim Hay |
| Tardis Project: | Kevin Kell |
| Webmaster: | Walter MacDonald |

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Autumn Meeting Reports

various members

SEPTEMBER MEETING COMMENTS

Hank: Hey all, just wanting to say I enjoyed all of the images and stories tonight, it was a fantastic meeting and a fun dinner before hand. I hope to see many of you next weekend at FnS2017.

Susan: I also enjoyed the eclipse pictures and the personal vacation experience stories. It is seven years until our event. Lots of time to work your voodoo and black magic for good weather. Very happy for all who travelled to the US.

Mark K: I so hope it is clear for you. Everyone deserves to see one. Next to the births of Robin and Lyndsay, experiencing the eclipse was the highlight of my life. You can look at

pictures and hear stories of people's trip to the eclipse, but it would be just like me showing you a picture of newborn Robin. You would say, what a beautiful baby, but it would not compare to the feelings I had when I looked in her eyes and held her in my hands. All the expectations, wonder, apprehension, amazement, beauty and relief. Just like the eclipse in person. And I was even luckier to experience all three events with Linda.

ROBERTA BONDAR AT QUEEN'S
WEDNESDAY, NOVEMBER 1

Kevin: Roberta spoke to a double+ large audience at Queen's University New Medical Building. The main

room held only 132 plus standing room only and another 100+ in an adjoining room with video display and the reception atrium. It was aimed at a medical student audience and we learned a lot more about what happens to the human body in microgravity than we have ever heard through mainstream media. It is much worse!

All of a sudden my confidence in Elon Musk getting to Mars sooner than later may be misplaced. Or provide artificial gravity on the trip out.

The presentation was just over an hour with a lot of questions and then she had to make a run for the airport. She did drop into our adjoining room

Continues on page 18...
Continues on page 18...

Meeting Report: January 11

various members

Rick: We are looking forward to a special event for the meeting: Jennifer West from the Dunlap Institute in Toronto will be here to speak to us. Jennifer is a post-doc with interest in large radio surveys and radio polarimetry for studying magnetic fields in supernova remnants and in the Milky Way Galaxy. She also has a real commitment to astronomy education and outreach, and she's also an amateur astronomer who likes to get out to look at and image the night sky. So you know she'll give us a great talk. She'll be

speaking to us about "New Frontiers in Radio Astronomy."

In addition we'll have our normal presentations of recent observations and images by fellow members and a summary of astronomical events—both in the sky and around the city—expected over the coming month.

Hope to see you at the meeting - it will be especially interesting!

Kevin: We hope everyone made it home safe last night. We had at least two bright flashes of light in the skies on the way out of Kingston. Rumour has it, MVC vs power pole, lightning,

general power infrastructure and rain issues. No power outages here though. In addition, a 9&\$\$@#)\$!! of fog and heavy rain... at times visibility down to a couple of metres.

Hope everyone had a good meeting. We learned much about the current state and future of radio astronomy. Scary about the data though! I saw a 1 petabyte drive array (1000 terabytes!) as a demo and to think it would fill up in less than a minute with the full Square Kilometre Array in operation! Zowee.

Continues on page 7...
Continues on page 7...

KAON Report: January 13

Susan Gagnon

WELL, I GUESS THAT TRANSPARENCY THING really makes a difference!

The Clear Sky Chart gave me hope this afternoon so I dressed for deck-observing weather. The deck was not open, as it was not shoveled. **Ananathan** said they did not anticipate...I'm not sure if they did not anticipate clear skies or bearable temps, but there was not much to see anyway: I could make out Orion's

brightest and Sirius.

The talk was great. Better than ever **Dave Hanes** in my opinion. There were about 70 folks in the audience and a good number of questions. Tours of the dome and a crowd management talk in the warm-room followed.

I managed to give away a book to a young kid who asked a couple of questions of Dave and deliver a stack

of *SkyNews* magazines to the warm room for pick up. All copies now will have a sticker saying "This copy of *SkyNews* provided by the RASC Kingston Centre."

It was good to see another member out, **Doug Barbour**. If there were others I'm sorry I missed you. The last calendar went to **Matt** for the observatory. ★

AGM of the Kingston Centre of the RASC, November 10, 2016
Ellis Hall, Room 324, Queen's University, Kingston ON.

1. Welcome
2. Presentation of Agenda
3. Approval of Agenda
4. Approval of 2015 AGM Minutes
5. Reading of the Annual Reports:
 - President
 - Secretary (report & approval)
 - Treasurer
 - Library
 - NAC Representative
 - Editor
6. Centre Elections:
 - Secretary
 - Librarian
 - Editor
 - NAC (now NC) Rep.
7. Appointment of Auditor
8. Adjourn with thanks.

The official start time of the Annual Meeting was 7:02 pm. Susan Gagnon ran the meeting, as Greg Latiak (President) was not able to attend. There were 18 members present.

There was an addition to the Agenda adding the Election of President and Vice President. Also step #4 to be changed from 2013 to 2015 AGM Minutes. Moved by Susan Gagnon, seconded by Malcolm Park. Carried. Motion 20161110-001.

Approval of the 2015 AGM Minutes moved by Doug Angle and seconded by Malcolm Park. Carried. Motion 20161110-002.

READING OF REPORTS

PRESIDENT: The President's report was read by Susan Gagnon. A copy was also submitted to the Executive. Susan Gagnon moved and Micheal Bird seconded. Carried Motion 20161110-003.

SECRETARY: Kim Hay read the

Secretary's Report with the addition of Paul Winkler helping with the Science Fair as suggested by Bruce Elliot. Moved by Kim Hay, seconded by Susan Gagnon. Carried. Motion 20161110-004.

TREASURER: Treasurer Susan Gagnon reported that the books were closed on September 31, 2016. Susan read her report, presented all financials, and read the Auditor's report (Doug Angle). There was a lot of back and forth discussions on reporting, but in the end all was OK. Susan Gagnon moved the financial report be accepted. Kevin Kell seconded. Carried. Motion 20161110-005.

LIBRARIAN: David Maguire was absent, but his report was sent to the Executive list and uploaded to the Centre's website.

EDITOR: Walter MacDonald was absent, but his report was uploaded to the Centre's website.

NAC REP: Rick Wagner is the Kingston Centre Representative, and reported 3-4 meeting this year. *SkyNews* was bought by the RASC. November 19th, 2016 is the next NC Meeting (teleconference). The current council is feeling being left out of discussions as the Board seems to be doing all the work. Next year this will be worked on. Report at next council meeting.

This concluded the reading of the reports. We then moved onto the Election part of the Meeting. The Elections ran with nominations from the floor, and called out three times, if no run off ballots required then the position was acclaimed.

The President and Vice President were added to the list of those to be elected for the 2016-2017 year.

- PRESIDENT: Rick Wagner was

nominated from the floor. Acclaimed.

- Vice President: Kevin Kell volunteered to become VP. Acclaimed.
- Secretary: Kim Hay nominated from the floor. Acclaimed.
- Librarian: David Maguire. Acclaimed.
- Editor: Walter MacDonald. Acclaimed.
- NC Representative: Rick Wagner volunteered to continue to hold position. Acclaimed.

Appointment of the Auditor for the 2016-2017 year was Michael Bird.

The 2016-2017 Board of the RASC-KC is:

President Rick Wagner
Vice President Kevin Kell
Treasurer Susan Gagnon
Secretary Kim Hay
Librarian David Maguire
Editor Walter MacDonald
NC Rep. Rick Wagner

The board was made up of nine members, with some without portfolios (Directors):

- Bruce Elliot: Education and Outreach
- Paul Winkler: stepped down in March 2016
- Rose- Marie Burke

It was decided that these positions (Directors) would terminate at this Annual meeting. If these positions would be needed in the following year, the Executive would approach the individuals to see if they would come on the board.

Susan Gagnon moved the close the AGM. Malcolm Park seconded, Carried. Motion 20161110-006. Meeting adjourned at 7:53 p.m. ★



IT HAS BEEN A GOOD YEAR. We have added several new members who are beginning to make regular contributions to the meetings. Our outreach activities are increasing and meetings have been full of member-contributed presentations.

This year we held our usual complement of 8 meetings plus the observing session in April and the December dinner, planned for December 6.

- In January Greg Latiuk and Rick Wagner gave presentations on astrometry and solving image to determine the pointing of the telescopes or to get astronomical coordinates of objects in the image.

- In March we hosted RASC Fellow and light pollution expert Robert Dick who gave a presentation on the impacts of artificial light at night.

- The May meeting was a collection of smaller talks: **Bruce Elliot** described the results of the Frontenac Lennox Addington Science Fair, **Laurie and Devin Graham** gave a presentation on their family trip to Arizona's Meteor Crater and **Rick Wagner** gave a presentation on the inconclusive results of his attempt to photograph changes in light pollution from Kingston as the city changed over to LED lighting.

- In June **Steve Craig** gave a presentation on his on-axis auto-guider and showed some of the excellent images he is taking with it. **Rose-Marie Burke** showed off her home-made binocular tripod mount.

- The September meeting was given over almost entirely to member reports on their travel for the solar eclipse.

- In October **Kevin Kell** gave a presentation on his six year-long growth to excellence in planetary imaging and **Paul Winkler** showed off his new telescope and described how he decided which one to buy.

- The November meeting was split between the Centre's AGM and a presentation by **Steve Craig** on how he processes his great deep sky images.

- As usual in December, in lieu of a meeting, the Centre will hold its annual dinner at the Mandarin restaurant on December 6.

Every meeting closes with members' observation reports, with excellent contributions from many meeting attendees. In particular, members are making great progress in astronomical imaging, planetary, solar H-alpha, deep sky, wide field, and timelapses all featuring prominently.

APRIL OBSERVING SESSION

Our third annual April observing session was held at Lake Ontario Park overlooking Cataraqui Bay, the Dupont/Invista industrial site, and the Kingston waste water treatment plant. While the light pollution was severe at least the skies were clear. We had an excellent turn-out with about 18 people (more than at a regular meeting) and 8 or 9 telescopes, including the Centre's 24" Venor telescope brought by **Doug Angle**.

A number of beginner members were able to get coaching in using their equipment and the more advanced members spent time tracking down bright Messier objects. A good time was had by all, with help from the snacks and baking brought by several of the members.

FLASCIENCE FAIR

In March **Bruce Elliot** and **Rick Wagner** acted as special award judges for the Frontenac Lennox Addington Science Fair, reviewing astronomy-related projects for the Leo Enright Award for Astronomy.

The winner was **Joshua Dove** for his "Galactic Jello," a model of gravitational waves using shear waves in a tray of jello and a laser pointer wave detector.

SCIENCE RENDEZVOUS

In May Susan Gagnon and Rick Wagner joined members of the Queen's University and Royal Military College astronomy departments to staff tables at Science Rendezvous at the Kingston K-Rock Centre. Hundreds of parents and children kept them busy throughout the day handing out planispheres and describing how to use them and answering all manner of astronomical questions.

GIRL GUIDES

On several occasions members (**Laurie Graham** and **Devin Graham-Ancsin**, **Bruce Elliot**, and **Susan Gagnon**) provided presentations to local Girl Guide groups.

KAON

A number of Kingston Centre members continued to provide assistance with the Queen's University Observatory Open Houses—the Kingston Astronomy Outreach Network—each second Saturday of the month. Each month a faculty member or graduate student from Queen's or RMC gives a public talk on an astronomical subject followed by a tour of the Queen's Observatory and, if clear, observing with the Observatory and Kingston Centre telescopes.

Susan Gagnon, Kevin Kell, Kim Hay, Paul Winkler, Brian Hunter, Hank Bartlett, and Bruce Elliott all assisted with manning the Kingston Centre telescopes. An estimated total of 700 people attended the 12 monthly talks.

...President's Report

Steven Morris

Susan Gagnon gave one of the talks, in August on the upcoming solar eclipse.

About half of the 12 nights experienced clear weather allowing members of the public to get out on the roof of Ellis Hall to look through the Centre's 6" telescope and Laurie Graham's and Devin Graham-Ancsim's 8" telescope.

Several dozen current issues of *SkyNews* magazine and planispheres were handed out at each event.

AUGUST SOLAR ECLIPSE

2017 was the summer of the "Great Eclipse over America." Five Centre members and their families travelled

thousands of kilometres to different destinations in the USA to reach the path of totality, with 100% success at seeing the fully occulted Sun.

With the organization of **Susan Gagnon**, she, **Brian Hunter**, **Paul Winkler**, and **Bruce Elliot** brought their solar telescopes to host, in partnership with Queen's and RMC, the public down by the Kingston waterfront for the partial eclipse. Over a thousand Kingstonians came out and enjoyed white light and H-alpha views of the partial eclipse under clear skies. **Hank Bartlett**, **Mark Coady**, **John and Peggy Hurley**, **Walter MacDonald**, and **Dieter Brueckner** also held smaller observing sessions for their com-

munities, showing the eclipse to a total of an additional 200 people.

Over the past year I have received outstanding support from the other members of the Board, making the job of President much easier and much more enjoyable than it otherwise would be. Their willingness to cheerfully and skillfully take on many of the jobs associated with running the Centre is greatly appreciated. The significant contributions of many members in outreach activities, participating in observing sessions, and in volunteering presentations and observation reports at meetings, is also gratefully acknowledged.★

Treasurer's Report

Susan Gagnon

October 16, 2017 RASC Kingston Centre Treasurer Financial Report for Executive Board and Auditor.

SUMMARY:

| | |
|------------------------|------------|
| Income. | \$4139.21 |
| Expenses | \$3165.41 |
| Net gain | .\$973.04 |
| Total assets | \$29093.44 |

FUND STATUS:

| | |
|-----------------------------------|------------|
| Spreadsheets, Open Office (4.1.3) | |
| Fall'n'Stars. | .\$500.00 |
| Observatory. | \$20776.64 |
| Operating. | \$5811.80 |
| Reserve | .\$500.00 |
| Special Projects. | \$1,500.00 |
| Total | \$29093.44 |

Membership remains stable at 67.

Donations are up from last year's \$1013.58 to \$1077.04.

Charitable expenditures are down this year (\$232.71) with no large equipment purchases. Spending for KAON sessions held at the monthly Open House at Queen's, Science Rendezvous, the August partial eclipse as well as Girl Guide/Sparks events are low-budget events

using reusable props and inexpensive hand-outs. Shipping from Toronto/Winnipeg factors in, but with so much being provided by National at cost (*SkyNews*) or free (starfinders, moon guides, eclipse glasses) being ready and equipped is much easier. Thousands of outreach contacts were made this year with the assistance of Queen's and RMC. Meeting room rentals were steady at \$45.20 per Queen's booking for the last year.

Income, membership (\$1321.89) and donations make up the bulk of our income. All donations come from the membership and it would be nice to bring donations from other sources.

Calendar sales are very consistent from year to year but due to the time of delivery and how early we can start selling, all centered around our end of fiscal year makes for odd reading at times. In 2016-2017 we have a calendar income but the upfront purchase was very early in the season and fell in the 2015-16 fiscal year, as did some of the sales.

Another source of income that

broke the \$200 mark was Miscellaneous Sales mostly due to sales of long term inventory Baader film, in preparation for the eclipse.

Interest income seems to have hit its bottom but will continue to provide a small amount that is always appreciated.

NOTES FOR THE AUDITOR

- Our financial year is October 1 to September 30 (2016-17).
- Current/previous treasurers:
Susan Gagnon (2015-2017)
Kevin Kell (2010-2015)
- A discrepancy of \$0.99 between the Ledger and the Bank Assets last year persists and for that reason all reporting shall be based on the Ledger value which is the lesser of the two.
- Records: within the 2016-17 Treasurer Deposit and Expense Binder please find the following,
 - Summary: AGM minutes November 2016 appointing Michael Bird Auditor. Bank notice with respect to changes in signing authority.
 - General Ledger: Central spread sheet, all transactions.

...Treasurer's Report

- Payments: All cheques (#210-#234) issued over this financial period.

- Reports: all monies received through RASC national and transferred through direct deposit to Kingston Centre.

- Bank: All statements received from RBC dealing with the chequing account (12) as well as the final transactions to the end of September 2016.

- Investments: all statements referencing GIC status.

- CRA: papers submitted to the Canada Revenue Agency as well as a list of the details presented to National for the year end.

- Equipment: inventory incomplete for 2017, will be available for November AGM.

In addition to the binder I have included, Profit and Loss (1 page), a sorted Ledger account (all transactions separated by Income vs.

Expense), Balance Sheet reconciling the General Ledger accounting and the RBC chequing and GICs as well as the cash on hand (1 page).

PROCESS

In my second year as Treasurer I have feel that the dropping of the increasing expense of the QuickBooks software and moving to a basic spreadsheet has met our minimal accounting needs. It was much more transparent, not having to guess what the software may be calculating in the back-ground, if a function happened to be enabled unwittingly by a person with no accounting experience. In pre-paration for this report I see small changes that can be made to make the process even smoother.

I look forward to the report from the Auditor and any feedback from the executive or membership. ★

Auditor's Report

I HAVE MET WITH SUSAN to discuss the financial statements for the 2016/17 year for the RASC Kingston Centre and would like to thank her for work as treasurer, she is doing an excellent job.

I concur with the decision made to change to an Excel-based tracking system, from Quickbook, for the club finances.

The club is reporting assets as of October 16, 2017 for \$29,093.44. After reviewing the financial records, I concur with Susan's work and that there is only a \$0.99 discrepancy, which has been previously identified.

One recommendation I suggest the club look into is the monthly banking fees. We are currently paying \$6.75/month in fees, which amounts to \$81.00/year. Given that the club has both bank account and GIC investments with the same institution, this may be a possibility.

—Michael Bird / Auditor. ★

...Meeting Report: January 11

We will be in the same Stirling Hall Theatre A for February and March. April is exam time so we will not be holding a regular meeting at Queen's but rather will set up a dinner and observing session somewhere (weather permitting) with details announced at the March meeting.

In February we have former Queen's Observatory Coordinator **Dr. Nathalie Ouellette**, Communications, Education & Outreach Officer at the Canadian Particle Astrophysics Research Centre (cparc.ca) speaking on "Solving the Cosmic Puzzle of Astroparticles: A Canadian Effort."

Hank: Well, what a fun and interesting night! Dinner conversation was lively and light tonight and a lot of laughs, such good friends are we. I thoroughly enjoyed Dr. West's talk on radio astronomy and appreciate her ability to keep it simple and clear

in description. I do have a better understanding now of what radio astronomy is about and certainly more respect for the work that goes into processing the data that forms an image. Thanks to our executive for inviting Jennifer to speak to us. A great night all around, even worth the miserable drive home.

Susan: I agree, great meeting and dinner. I do consider myself fortunate that once a month I can surround myself with such a variety of folks with a wide range of interests and skills. These are the things that make for a richer life.

I too have a greater appreciation for the equipment, effort and logistics associated with getting those radio images. I think it was Kim who asked Jennifer to come to Kingston when they ran into each other at the GA in Ottawa. Thanks Kim!

Mark K: Thinking of you guys.

Hope you are having good eats and a fine meeting. It is pouring rain here ruining our beautiful snow. Such a shame, this is the first year in I do not know how long that we had a good snow base. Tomorrow, when the cold returns, we will have an ice base. At least I was able to get out and enjoy the nice weather while it lasted.

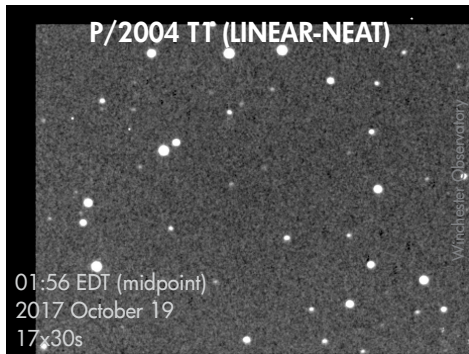
Rose-Marie: Had a good speaker at the meeting, learned some stuff about radio telescopes. My head's still spinning about the terabytes per second of information being downloaded.

Don't worry about the snow, once we get a good wash of rain temps are supposed to drop and give us a dump of 10–15 cm of snow. Another winter that can't make up its mind. Keep the woodstove topped up and hope the power doesn't go off—right now it's giving my sump pump a good workout. ★

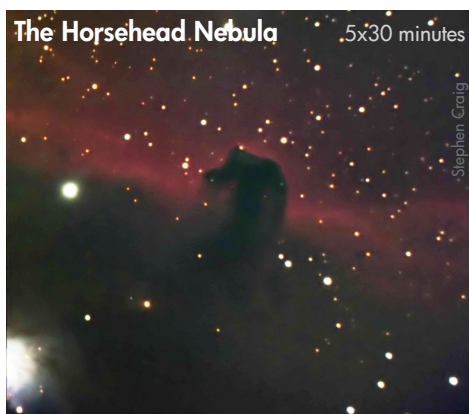
...from page 3

WED/THU, OCTOBER 18/19

Walter: 112 Miras and cataclysmics were imaged tonight, along with two comets.



Stephen: I was all set up for a great night. Then my mount failed. The RA motor was fried. Luckily my dealer in Ottawa had a spare mount available for me. So I made a quick trip to Ottawa to swap mounts. This one is not quite as good as mine, but it will do nicely until mine is repaired. It cleared up at about 23:00 so I got all set up and did a rigorous polar alignment and a mount calibration. By 02:30 I was ready to test an image. My subject was the [Horsehead Nebula](#). It turned out not too badly.



I guess I'm addicted and just don't feel right unless I'm getting my star fix!

Rick: Bummer about the mount but great that you were able to get back up and operational in quick order. I've had problems with the 40cm mount that required sending the controller back to California, only to get it back with apparently one of the problems still extant so it seems I may be mis-diagnosing at least one of my alleged problems. The scope has been down for several months now. When I get time between what seems to be an overwhelming load of urgent household and neighbourly jobs I'm trying to determine if there is a problem and, if it exists, what it is and how to correct it, without frying the controller. Until then (and since the scope went down) I'm limited to the 9cm refractor—quite a step down after the 40cm.

Greg: Must be the season for things to break on that most important gadget. Like others I have also been suffering with a mount problem. Turns out in my case the Vixen pier I am using in the dome had a metal failure—the clamping lug for one of the legs broke off and the pier developed an interesting wobble—when I did a star trace it was roughly kidney bean shaped... Not good.

The leg assembly is now tied together with a couple of heavy duty hose clamps, there are now aircraft cable diagonal braces to effectively shorten the free length of the tube and a shelf to support some sandbags to add a bit more downforce. A couple of days crawling around under the deck is not my idea of a good time.

Anyhow, all I need now (besides a shower and a very stiff drink) is a reasonably clear night to realign the thing and rebuild the pointing model. Sigh...

THURSDAY, OCTOBER 19

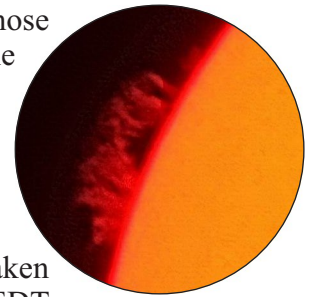
[A mid-day alert was received of a spectacular solar prominence.]

Hank: It would figure that I am not at home right now, DANG!

Greg: Looks beautiful on GONG. A pity my sky is cloud-filled in the direction it matters. Of course.

FRIDAY, OCTOBER 20

Hank: For those interested, the large hedge-row on the Sun's NE limb is still there. This image was taken at 11:18:19 EDT, ISO 400, 1/10 s exposure.



Brian: I had a look with my PST. Best in years!

Malcolm: I TOOK out my own PST but it was too cloudy. Squinting into the PST is hard enough without high cirrus interfering.

Rick: Wow, that's an awesome prominence—wish I had an H α scope! And a great shot. I've had the scope set up in the parking area behind the house for 5 days now observing every second night when there are clear skies. I keep thinking during the day 'wonder if there is anything on the Sun that I should looking at' but then I get dragged away into some job or other and never get around to it. It looks like

we might not see any good observing for the coming week, so it's a good thing the Sun isn't one of my priority targets. Not that the prominence would be visible in white light anyway. And, checking [space weather.com](http://spaceweather.com), I see the disk has been almost perfectly clear of anything.

FRI/SAT, OCTOBER 20/21

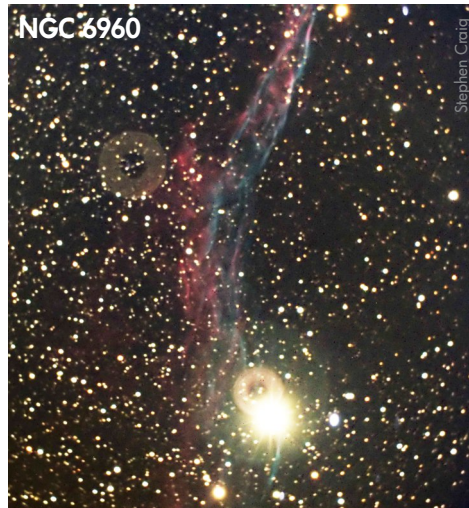
Malcolm: Last night began brilliantly, with a beautiful dark sky until it crapped out after midnight. As I mentioned at dinner before the last meeting, I recently added an Intel Stick computer and separate wifi hotspot to replace the laptop and internet dependency in the field. Dave Yates gave a talk on this at Starfest. I have been mucking around with the Raspberry Pi in an effort to get a similar result, but with way more pain and I was getting nowhere.

Last night was a good night to get out with the kit to iron out some of the wrinkles and learn how to operate everything from my iPad. The setup is an iOptron CEM25 mount, with an Astrotech AT65EDQ refractor and a KW Kwik guider with QSI 683WSG main camera. The Intel Stick has WIN 10 and was easy to set up. I decided to use comet C/2017 O1 (ASASSN) as a subject in my testing routine.

I am looking forward to taking this kit with me to Chile. It's a really fun way to operate the scope/camera. The interface with the Intel Stick worked very well. The polar alignment routine was great with my QHYCCD Polemaster, and once aligned to the stars, my go-to's were excellent.

Stephen: I spent a good night with the scope and camera getting the mount properly calibrated and balanced. I have a focal reducer on the camera. Then discovered that I get bad reflections when there is a

bright star in the field. Even so I got a fairly good shot of the [Western Veil Nebula](#). Then later on The Orion Nebula was in view. I'm happy with my shot of it. It's always a good target. I'll take the focal reducer off and try another shot of the Veil on the next clear night.



Malcolm: I was disappointed by the [Orionids](#). Who knows how they come up with their meteor/hour predictions? Worse than the clear sky chart. I saw maybe 4 OVER 6 HOURS. Granted, the ones I saw were perhaps the brightest I've ever seen. But 20–30 per hour? Maybe on radar. Not naked eye.

Rose-Marie: You weren't the only one disappointed! I was dancing around thinking this is the first time in 6 years we have clear skies with no Moon, and the Orionids are supposed to be among the best for fireballs. So I sat out on the patio with the camera all set up hoping to catch one or two. Pfffft!! Some piddly little streaks that didn't show up on ISO 800 f/3.5. The only really good one that left a smoke train for 2 seconds that woulda shown up was *just* above the field of view of the lens. Argghh!

The BigWetNose just had me outside again, I was considering the set it and forget it with the camera when I saw one faint one, Orion is just coming past the trees, but there are clouds creeping up from the

south.

Kevin: Orionid-wise, AllSky2 saw:

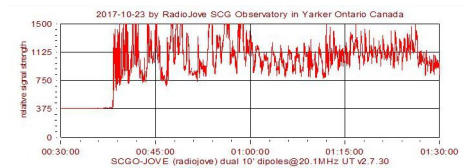
Thu/Fri . . 22 events

Fri/Sat . . . 26 events

Sat/Sun . . 30 events

SUN/MON, OCTOBER 22/23

Kevin: This is an image from last night's radiojove data logging. The noise is entirely from the Torus telescope power supply being fired up and operating. The first 30 minutes of so are from a lot of slewing around, calibrating, testing. The next 30 minutes settle down a bunch as the scope is simply tracking targets for the most part. The antennas are right next to the scope, less than 5m away. another good reason to look at moving the dual dipole antennas further away.



THU/FRI, OCTOBER 26/27

Rick: Well I did shoot [comet O1](#), the assassin, Wednesday night. But it sure wasn't anything special—it hardly shows up in my exposures. I should be able to process it to where you can tell it's there and see the colour but that's about it. I wasn't expecting it to dim nearly that fast. S&T says it should be 7th mag through October but ECU says 12th mag and I think that's a lot closer to the mark. Glad I got to see it at Fall'n'Stars 'cause I'm not going to spend the time now to look for it visually...

MONDAY, OCTOBER 30

Cathy: Heavy rainfall hit eastern Ontario and by 10 p.m. amounts like ~65mm had fallen in Trenton/Picton,

74mm in Kingston, and even 112 in downtown Ottawa. Now that's wet!

Kevin: We seemed to be on the edge of things, that is not so bad at all. The weather station recorded 54mm in the last week but was down for about the first 24 hours of the storm. The software issues are now resolved.

There was a slight leak in the observatory, mostly from the wind blowing rain uphill. Wind gusts hit 42 km/h only.

Malcolm: We got our share too, but not as much as you! Good thing Lake Ontario (and by extension, West Lake) is down to normal levels. Ottawa wins! Who bought the newest astro gear?

Hank: And to all of you as well. We had about 45mm rain here in Newburgh and max wind of 36.7 km/h.

Greg: Amherst Island: 57.4mm, max wind 68 km/h.

Keith: In the land of Visibility Nil, there was lots of rain, winds gusts up to 90 but average in the 70s, no wet in the observatory. I have to check now and then, since I seldom use it.

TUESDAY, OCTOBER 31

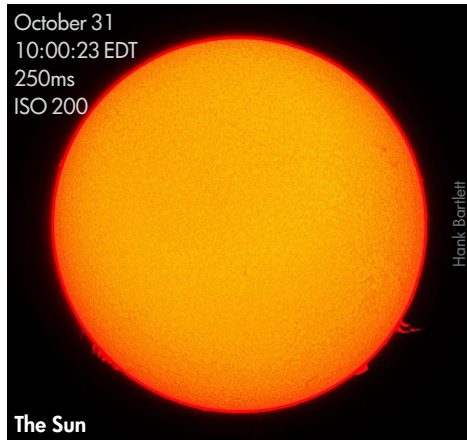
Mark K: Our rain gauge is not reading properly, I keep thinking I have fixed it, but have to wait until the next rainfall to see. We only had 1.3mm...

Malcolm: Mark, I just had a look at the shoreline. My pump intake was above waterline last weekend. It's submerged today. My guess is lake is up about 4 inches.

Hank: Terribly busy this week preparing for Halloween—it is a big deal here (we are presenting THRILLER theatre and a small haunted house, usually have about 200 go through). Also the weather has been lousy as we all know, here is an image from this morning that I posted to FB RASC for those interested.

The weather has been rather

uncooperative lately and the sun rather quiet. Solar x-ray has been mainly flatline for some time now. I did manage to get out this morning and capture a few images with a nice prom on the SW limb.



FRI/SAT, NOVEMBER 3/4

Greg: Last night, after all the wind had obligingly cleared the leaves from the trees to the north, I was able to re-polar align my setup after fixing the pier base. As an experiment, I used the *Sharpcap 3* polar alignment tool—it was the quickest and least painful I have ever done it. The tool gets an image of the north sky, then you rotate the scope in RA by 90° degrees, then adjust from there. The software computes how much the sky has shifted using its plate solve capability and provides direction as to how to adjust alt-az. And the display shows a set of rings around the NCP and an arrow as to which way things need to move. I would guess that the QHY Polemaster does something similar, but this makes use of your own camera—in my case a Mallincam DS16c with focal reducer, gives me a FOV of 77' with the 6" RC.

I might add that it was pretty brisk in the dome, but I am getting close to being able to drive from inside. Hope this winter has better skies.

Kevin: Did anyone notice (a) bright light(s) over Lake Ontario between

19:00 and 19:30 EDT? There were some reports on twitter *Make it Home YGK* but someone explained them away as being Leonid meteors!

We ourselves saw one on the way home driving west, to our left over Lake Ontario. It was long lasting and did not seem to move much. Typically it is Trenton SAR flare exercises (flares on parachutes) but they usually are announced or known about in advance. We dismissed it as an aircraft, knowing there were no stars or planets that bright in that area. Then we heard about the other reports.

Mike Bird: Yes, I was at work Friday evening at the airport and observed one **meteor** over the lake, SW trajectory. It was unusual in that its brightness changed, almost pulsating over a short period, and did make it lower in the atmosphere. Cloud bases were approximately 4500 feet and it was below this before burning up completely.

Kevin: Thanks for this. Any idea of total duration? Kim saw it longer than I, pointed it out, drove a bit, pointed it out again, I took a look and it was stationary, maybe an upper limit of 30 seconds? I saw it for approx 3–4 seconds and went back to trying to stay on the road. This is totally unheard of for a fireball combined with not moving a lot, unless its trajectory was directly away from us...

Cathy: I was car-less Friday night, and took a bus over to the local grocery store after work. Was standing at the bus stop in front of the Westboro Loblaws Superstore for the trip home...

Saw a bright white moving light that at first did not think was a meteor at all. (They keep changing the airplane flight paths here in Ottawa.) Sky reference stars were about non-existent. It started way off to the right of the almost full moon rising over the Superstore, and kept going

away from the moon. So that would have been motion about S to SW. It was about 10° from the horizon as seen from here, and stayed at that level for the whole path. Brightness: no guidelines, perhaps about -5 or -6 .

Caught my eye, and it kept going. It was a **meteor**. Very slow, very smooth delicate motion, like sliding on mercury, saw about 15° length of it. Bright white, no train.

Time frame would have been about right...

Kevin: Nothing on either one of our all-sky cameras: it was too low to the horizon.

Mike: I would estimate duration at 2–3 seconds, but I only saw through the cab window; it could have been overhead slightly longer, out of my view from the roof line.

FRI/SAT, NOVEMBER 10/11

Kevin: Reviewing all-sky camera events overnight with coffee this morning and found this great big **fireball** in the north, heading north on Saturday Nov. 11 at 00:10:15 EST. Both cameras caught it. And from



the looks of it, the AllSky1 dome heaters are not nearly enough as once the Moon came up and it got cold, there was frost everywhere on the dome!

THU/FRI, NOVEMBER 16/17

Stephen: I got fed up waiting for the sky to clear. Even if it does clear tonight it will be too windy! So I logged onto itelescope.net and set up reservations in Australia and New Mexico. I'll get my astro-photo fix one way or another! Maybe in the new year I will give a short presentation on remote telescope observing.

Rick: I'd like to know more about these rental telescopes. Cost (I'm probably too cheap anyway), how heavily booked they are, etc. Do you use them often?

I know someone who used to use Slooh (I think a different type of operation) all the time. Kept saying 'why spend all that money on a telescope' and would show us great images. But I was never sure whether he was actually doing the imaging or if he was kind of going along for the ride. It sounded almost like the StupidScope we designed in Ottawa: you phone an accomplished imager and tell him what you want a picture of. He delivers it in a few days, no fuss no muss, no expense.

And yeah—we've had way too much cloud. One of my most important targets is disappearing into the evening twilight unobserved.

Malcolm: I had a membership to iTelescope for about a year. The concept is that they want cash flow, so they offer memberships. One and done isn't an option. Or wasn't when I was a member. You get points for your fee; the better optical setups cost more points to use and the more you pay on a monthly basis, the more points you get to "play" with.

I was in a \$20 per month mem-

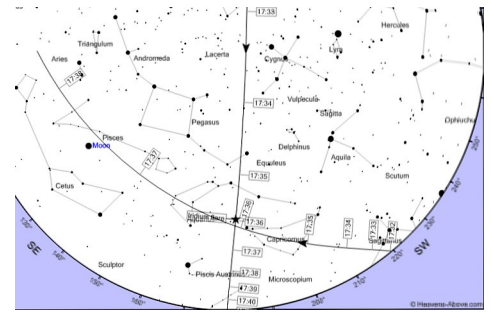
bership, letting me access some decent equipment, but not the best. I accumulated a number of months of points but cancelled my membership without having taken single picture.

It wasn't my cup of tea. I think it was the challenge of learning their software/reservation system that discouraged me.

WED/THU, NOVEMBER 29/30

Walter: I just caught this evening's ISS pass (-3.0). **Iridium 62** did a nice flare (-1.0) just as ISS was passing by only a couple of degrees away. How convenient is that?

Malcolm: I saw it too.



SUNDAY, DECEMBER 3

Greg: I was out in the dome today doing some maintenance and testing and discovered a very conspicuous message that it has been too long since I had a quality observing night. A spider had setup housekeeping inside my 6" Ritchey-Chretien and filled the barrel with a web. Tried to take a picture... no luck. Was not that hard to vacuum the webs and their creator out of the barrel...guess the baffles made great attachment points. But getting the spider crap off the main mirror is going to take dismantling the damn thing. Sigh...

Malcolm: I found all kinds of wild-life-related activity around my POD throughout the year. And I did find a spider last week on the lens cover of my RC.

I found multiple paper cells from yellow jackets that tried to start a

hanging nest on the ceiling. I can tell that they tried over and over because the stems were all along the seam line like stalactites. But every time I opened the POD roof, *poof!* I wiped them out and so they started over, and over, and over... I had not noticed this activity until I recently peered intently at these curious formations on the ceiling, and I realized what had been going on.

Spider webs form so routinely, I hijacked a snow brush from the car and wave it around the interior everytime I enter in the summer.

I noticed that another kind of wasp had set up shop, when I opened the roof a couple of weeks ago. This one makes clay/mud cells, fills them with food, lays her eggs and seals it up. This strategy works for the wasp if nothing moves. The cells were probably in the seam between the two halves of the POD roof, and they crashed and broke open on the floor when I opened it a few weeks back.

The gaps between the wheels that support the roof tend to be filled with the webbing of a pupating insect of some kind. Maybe moths.

Under the deck, as I mentioned before there are holes from the rodents that hide underneath. I found a nest of some kind, and lots of seed shells when I opened up the floor recently. The rodent is likely a chipmunk. We did have Norway rats briefly, but I exterminated them. Finding rats were in our backyard was pretty shocking. We think they moved in after being evicted from some old structures on our neighbour's property. They were building a new house, and tore down most of what was left of old rotting abandoned wooden fishing cabins that were probably built in the 50s.

And I can't forget the sky rats; seagull doo on the roof happens from time to time. Seagulls, terns, all kinds of them hang out on the shoreline and particularly like to

perch on our hydro poles.

I'm sure anybody with an observatory gets those invasive Asian ladybug infestations. They get in everything sometimes.

It's always interesting.

Greg: I didn't think I was alone in this. I do spray the inside of the dome with pyrethium solution. This cuts down on the wasps. Paper wasps are nasty; they get bug bombed when its cold. The mud daubers I just ignore—they build in the shed and don't seem to worry about people. And the outside gets spider spray like the other structures. The cobwebs inside the RC, that was a surprise.

Malcolm: yeah it became tangential...I couldn't help but start to run through this in my head. Then I started writing it down. And it became a reply!

MONDAY, DECEMBER 4

Kevin: You know it's going to be a bad day when you see a reciprocating saw in the observatory. This is the 2nd of 2 piers that have had to be removed. The first came down a couple of years ago due to rot. This one too rotted out and had to be cut out in pieces. It was a 2x6 wood construction down about 2–3 feet in concrete, laid down some 15 years ago. I've been doing all of the Jupiter, Mars and Saturn imaging from it over the last 5 years, and more and more the pointing and tracking were getting worse. No wonder, it moved an inch at the top of the pier, easily, or a few inches if you pushed



harder.

Kim has fully transitioned to her new iOpton mount with 2" tripod legs and she will have to make do with a slightly moving floor until another observatory is built.

RHA OBSERVATORY 2.0

Hank: I have decided to take the blame for all the bad observing weather for the rest of 2017 and into next year and therefore release Paul from carrying the burden due to his Takahashi purchase. Over the past few months and after two years of storage after being dismantled in 2015, Norm Wellbanks' SkyGuy Observatory has been resurrected as the RHA Observatory 2.0. The attached image shows my 108 sq ft observatory built from Norm's 220 sq ft building. There is still considerable work to do to be sealed properly and a coat of paint will brighten it up, but it is functional and if that AMAZING COMET approaches this winter the C9.25 will be out there ready to go shortly.



So my apologies to all my astronomical friends, if you want clear sky you are going to have to live far enough away from me or travel to Peru with Malcolm and Brian! Merry Christmas and Happy New Year to all.

Greg: I disagree... you should not hog all the blame. I bought a MallinCam DS16c and a Williams Optical 60mm APO this fall. And have had two nights with the former and none with the later... sigh.

SUNDAY, DECEMBER 10

Greg: Just in case anyone was curious, I rechecked the pictures I took of the inside of the VRC6... with a bit of fiddling, the enhancements the (now evicted) tenant had added showed up:



I think next time I have this thing apart I am going to spray the inside of the tube with spider spray...grrrr. Meanwhile, I hope it stays cold enough so the little wretch or her cousins do not move back in.

Malcolm: How would you prevent the spider spray from landing on the mirrors?

Greg: I have had the scope apart before. The front and back cells are retained by screws. So I would have to drop them out and spray the inside of the tube...reassemble and realign. Besides...there is spider crap on the edge of the mirror...

TUESDAY, DECEMBER 12

Stephen: As the weather refuses to cooperate, I'm back to rethinking my image processing. A few months ago I bought a program called *PixInsight*. Its drawbacks are that it is very expensive, difficult to use and not at all user friendly. On its plus side it is full of very useful tools if you can figure out how to use it. Now with a

lot of time on my hands I bit the bullet and dove into it. I spent the day tinkering with my image of M51. In the end, after much gnashing of teeth it turned out pretty well. I ended up with a much sharper photo than I had before. I figure it's not bad for a first try and I can only get better!



WEDNESDAY, DECEMBER 13

Walter: I was out just after 05:00 to move some snow. The crescent Moon peeked through the clouds a couple of times but was otherwise invisible. In the south I saw a couple of light pillars. There were a couple of broad areas of brightness stretching from the south to the zenith and in fact the pattern of brightness around the zenith looked exactly like a coronal aurora display. But it was totally overcast. Weird. Perhaps it is some new form of wintertime light pollution.

Greg: You are too far away, but I was seeing these last night from the late hours of the wind farm and dock projects and their huge flood lights. Kind of cool if the sources are obscured by trees. Wish it was auroral...but no.

WED/THU, DECEMBER 13/14

Kevin: Wow! Kim actually went outside in the -20C this morning between 05:30 and 06:00 to observe **Geminids**. She saw a bunch but I'll let her speak to that.

AllSky2 caught on the order of

135 over the course of the night. Including one whizbang overhead at 09:26:20 UT. Too cold for me though.



Rick: Man, what a mess! Looks like a WWII firefight. It would be nice to be able to somehow translate them all to a single sky alignment so that they show the radiant. Just trying to imagine how the radiant would have moved across the sky it looks like a fair number of your meteors may have been non-Geminids.

I was out observing for probably a total of two hours and had one camera running and one sort of hobbling (more later.) The running camera was shooting 60s exposures so I was able to use it as a clock against which to count meteors—I did two 10-minute counts and got 11 meteors both times so the rates were about 66 per hour—pretty good considering the sky was partially obscured in trees (probably only 10%) and there was very thin cloud over about 40% of the sky for part of the night. I estimate I saw well over 100 meteors (I kept forgetting where my count was as I kept leaping up to change targets, frame pictures, etc) and I caught about 20 meteors on the camera including a couple of perfectly framed bright ones. Interestingly, in the hour while I was moving about setting up the telescopes (had two doing photometry) and the cameras, the 4 brightest meteors I saw (all about 1st mag and nice long slow movers) were non-shower (or at least non-Geminid

—the best two took almost exactly the same path from north to south.)

The second camera was hobbling rather than running because one of my cable releases no longer works in continuous shooting mode. I had to stand there and click the shutter every 30s. Needless to say, that didn't last very long.

Rose-Marie: I watched a couple times during the evening when I took the dog out, but nothing, nada, and by 11:00 p.m. the sky was clouded over. At 4:30 a.m. I was up, went down and stoked up the wood stove. Turned out the light and opened the basement window where I can see some of the western sky, nada. Freezing cold air poured in and in a minute I shut one of the panes, watched a few more minutes, nada. I considered bundling up and going outside but I was tired and that warm nest was calling to me.

So who among us was braving the arctic weather?

Malcolm: Amazing! I'm processing now: three cameras ran all night. This could take a while, we'll see...

Kevin: Looking forward to it! Did you take any images of your photo setup? How did you keep the lenses from fogging, frosting, etc. What power source to keep the cameras running all night?

Malcolm: Um, I cheated? I booked a place in the Arizona Sky Village a while ago. I could go on and on but it would be cruel.

Michael: I headed to the L&A dark sky site. Kingston was overcast

earlier in the evening, by 11 the satellite imagery showed potential further north and things worked out. Arrived just before midnight and stayed for a little over an hour, when I couldn't feel my cheeks, knew it was time to come home! Counted in the mid 30's for Geminids, with several other probables that I caught on the periphery of my vision.

Greg: I checked my AllSky and it captured a regular stream of them once the clouds thinned out a bit before 3 a.m. Will see if I can consolidate the streaks...

Hank: Amazing Kevin, sure puts it in a different perspective when the night is compiled like this. At about 10–12 an hour in this cold I am a no go, well in any weather I might be a no go. Brave souls like Michael are to be admired for their dedication.

Paul: Interesting that all the chat today is about the Geminids. I was out at 5:30 a.m. for about 25 minutes and didn't see a single one (not surprising to me: I live in a city.)

What I *did* see was a spectacular conjunction of the Earthshine-bathed crescent moon and Jupiter, with Mars and Spica lined up on the other side of the moon to put icing on the cake. It was the clearest sky I've seen in some time. What a thrill!

Kim: Yes, I did venture out both on Dec. 14th, and 15th [photos below]. I did not get any Geminids on camera.

The **Geminids** on Dec. 14th were very long, and bright and since I was looking to the south, most fell in that direction. There were a few sporadic

meteors. (–16C, no wind, not bad.)

Dec. 15th, I did not see any in the time I was out. (–20C very cold)

I cannot believe after all this time observing meteors, how I still get excited to see them.

Paul: Very nice pics, Kim. You captured exactly how I saw the sky at that time. Awesome!

Kim: I took an image of the **Sun** today (unprocessed) using my Solar-Max60 on an iOptron Pro mount with an iOptron phone adapter. There is a hedgerow on the upper right, but no sunspots or groups.



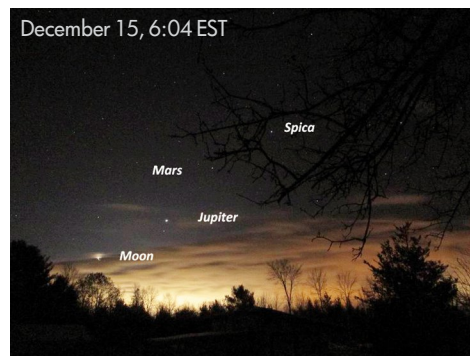
Hank: I am just processing some now that I took about 14:45 EST. Glad your 2nd saddle is coming, you will like the WL/H-alpha ability.

Too bad I didn't get out until late, here are two images. As Kim stated no spots but at least there is some H α activity to satisfy us solar observers. These images are both ISO200 but 333ms (yellow) and 125ms (pink) showing the colour shift that occurs with longer exposure [see images on next page].

THURSDAY, DECEMBER 21

Kevin: Some twitter chatter from an "intelligent" telescope...from Dave Lane at St. Mary's University in Halifax:

BURKE-GAFFNEY OBS@SMUBGOBS
#bgodays I am sick tonight... Not operating. Human is unavailable



to fix it.. the nerve!

BURKE-GAFFNEY OBS@SMUBGOBS

12 hours ago

#bgosays #human says my camera forgot its CCD model id - needs re-programming. Known Apogee Aspen camera bug (never fixed!). It happens every year or two (usually on xmas holiday!!!).

JEFF TERRY@NUCLEAR94

15 hours ago

Replying to @smubgobs

Get well soon, roboscope.



MONDAY, DECEMBER 25

Hank: And to all of you the same, joy and happiness of the Christmas season to my astronomical family. I hope someone out there got an astronomy gift that is powerful enough to remove this grey cloud cover we are living under. It appears that for me AR12292 will be an unseen spot.

Greg: Clear skies yes. Stiff wind and -25 not so much. Merry Christmas to all...and hoping 2018 will be better for everyone.

Stephen: Merry Christmas to you all! Donna got me a great Christmas present: *The Astrophotography Sky Atlas*. It lists over 2000 deep sky objects. It will keep me imaging for years! Unfortunately it's far too cold this week to operate the telescope. I'll just have to wait for warmer weather. Here's hoping for warm weather and clear skies in 2018!

THURSDAY, DECEMBER 28

Hank: At 13:17:48 EST a 1.34s duration [ISS transit](#) of the Sun occurred and it was awesome to watch and would have better to have videoed.

Of course video was my intention and being a seasoned observer I knew enough to go out early and set up in case of problems. I set up the scope, programmed to and tracked the target

SPACE LAUNCHES [DECEMBER 21]

Walter: My sister in San Diego reports:

Saw the tail end of this when I went out to get my pizza tonight. Crazy light in the sky—couldn't figure out what it was!

<https://www.10news.com/news/spacex-rocket-launch-seen-above-san-diego>

SpaceX should do only twilight launches!

Rose-Marie: I'm still ticked off at NASA for not having the space shuttle do any night crossovers over N. America during their last flight.

Malcolm: just to give you a sense of the power of Facebook...I know not all of you partake...you will be assimilated...

I watched the live feed from SpaceX on Facebook. I received a notice from Facebook that SpaceX was going live so I decided to take a look. This notice was sent to me because I assume that the Facebook Artificial Intelligence algorithm deemed that I would be interested. It was correct.

I must admit, I have too many "friends" on Facebook. But I digress.

Once the second stage ignited, I killed the SpaceX feed. (Aside: There was no floating platform landing of stage 1 for this launch, and no legs attached

...although all of the landing routines were followed. There was a re-entry burn as usual for stage one, the only difference is when it got to the water, it sank. That's why I stopped watching.) No sooner had I killed the SpaceX feed, Facebook sends me another notice.

One of my "friends" was broadcasting live. I decided to take a look, and he was in California somewhere shooting video of the launch plume, and posting it live to Facebook. I saw it all live too. But HE had no idea what he was looking at. Having just watched the SpaceX feed, I informed him! This blows me away.

Hank: The connections and the Big Brother is watching you are getting so real. I am amazed at times myself, I haven't had anything like this happen but the ads and interests at times are quite handy and sometimes annoying also. To think that this is going on for every individual on FB is mind bending.

Mike Boschat on RASCals: The launch of the latest SpaceX rocket last Friday night from Vandenberg Air Force Base in southern California, wasn't just a hit on social media—it appeared to create at least a couple of actual hits between vehicles on Southern California's freeways, according to a video posted to YouTube (courtesy Los Angeles Times). Wait for it...

youtube.com/watch?v=Ff7wbSwTuEk★

sun, mounted my cell phone adapter on the phone properly and inserted it into the Mak 90 as there was less than

10 minutes to transit. I then waited with the timer set to alert me at 1 minute to transit. At approximately

13:13 Blackberry shut down the 50% charged phone I will assume due to sitting unheld in the cold (-8C). I quickly took it inside and restarted while warming it only to have it still shut down again at 13:17! I quickly removed the phone, put in a 40mm eyepiece and observed a beautiful 1.34s pass! It was very rewarding while also disappointing. What I did learn it that the transit finder site worked very well and I will be keeping track of it regularly!

<https://transit-finder.com/results>

Kevin: Damn! Forgot all about it! Need a reminder the day before and earlier the day of!

Hank: That is why you have a calendar in your cell phone. I will try and share future events with you. I thought you'd be back to work.

Stephen: Well, at -23 it's far too cold for me or my equipment! Looks like I won't get any more astrophotos in 2017. But I'm more than happy with what I got this year! Here is my year in review:

stephencraig.ca/Astronomy.html

Better things to come in 2018. Happy New Year!

Hank: Stephen you are well entitled to feel fully satisfied and proud of the imaging you have completed this year and we look forward to your 2018 imaging. A very happy new year to you and your family.

Paul: A mind-boggling 2017, Stephen!

Greg: Great work. Am sure the felines provide valuable advice. Am hoping 2018 is better for everyone... a few clearer nights would be nice, especially at temperatures that don't make parts of the astronomer break off... Happy New Year!

Rick: I am less concerned about pieces of the astronomer breaking off than I about the telescope. Astronomers heal.

Greg: Don't count on it working forever...the broken bits do compound. One can always buy new

stuff.

Rose-Marie: And a Happy New Year to you too, and to everybody! Was just thinking...2018 is starting out with a Monday and a full Moon. This could be an interesting year.

SAT/SUN, DECEMBER 30/31

Mark K: Aldebaran just disappeared behind the Moon in the Sault. Re-appearance will be much harder to see as it will come out on the lit side.

MONDAY, JANUARY 1

Rick: Wishing everybody as per the subject [Happy New Year]... I had been thinking tonight would be my last night observing for 2017 but as I was opening up I realized that I work in UT so this is actually my first session of 2018. I'm just doing a focus check and changing targets. It was supposed to be clear out but there are scattered thin clouds floating through—shouldn't affect the photometry too much though.

Kevin: Here is the 2017 summary of midnight images from the AllSky1 camera system. It recorded 355 out

of 365 nights... I will go back through the archives to try and pull out a few more...mostly the missing ones are automation and coding issues.

There were not a lot of clear dark skies! AllSky1 tends to get overwhelmed by moonlight, any moonlight! These are typically 80 second exposures using a ~20 year old SBIG ST-237A camera

You can see the collection going back to 2007 here: starlightcascade.ca/allsky1/midnights/

Hank (Jan.3): Hello all, here are some images of RHA Obs v2.0 resurrected from the SkyGuy Observatory of Norm Welbanks.



The winch system although new to me may be known to some of you, I do not know if Norm had it built or

bought it as is but it works well. This system is a little oversize for my 10'x10.75' observatory, it was previously in Norm's 10'x22' observatory. I took the winch images today and there still was no snow leakage except around the bottom of the door on the east side, given the gaps around the roof this is amazing (you can see daylight coming in two images).

For those whom did not know Norm, he died of cancer in December 2009; his observatory lay abandon until 2015 when Nancy decided to sell the property and offered the observatory to me if I wanted to dismantle it. I did so that fall but due to my own illness did not re-assemble it until the fall of 2017; completion of finer points will be done in the spring of 2018.

Currently RHA Obs v2 houses the C9.25 (willed to me by my dear friend); in the spring the SolarMax60 and Mak90 will join it. There is provision for a pier in the centre of the



building but with no intention of long exposure imaging I may not change to it. NOTE: the only cats in my observatory will be telescopes.

Kevin: Here at SCGO, designs for a new small observatory are coming along with ground breaking as soon as possible after the snow melts.

Susan: Nice job Hank. This is a nice size, small enough for easier maintenance and roomy inside (almost 40 more square feet than mine). I'm keen to know how the flat roof will work out. My steeper peak was OK in the building year, and I've had no trouble making repairs at the lower levels. But I do imagine that my future holds a much lower profile for later life. The winch is also something I've long anticipated needing.

I hope you get many years of enjoyment out of this effort.

Susan [earlier]: I do have trouble imagining how I'll get the snow load off of the observatory roof.

Rick: I use a roof rake. Since I have a steel roof I even notched the blade to fit the ridges in the steel so it cleans right down to bare metal. Of course it meant that I had to buy the same brand of roofing for the new observatory so the rake would still fit.

SAT/SUN, JANUARY 13/14

Walter: In addition to [Jupiter](#) and [Mars](#) together, there was a beautiful thin crescent [Moon](#) with Earthshine, and later just before 07:00 I was able to see [Mercury](#) in the trees with binoculars (but not Saturn).

SUN/MON, JANUARY 14/15

Stephen: Well, Last night I got the observatory open. I got all the electronics started up. I got my initial star alignment done. Then I noticed that the telescope was out of focus and needed collimation. The focus changes with the temperature. The last time I used it, it was much

warmer. When I went to focus it I found the focuser was too cold and stiff to work properly! Discretion being paramount and not wanting to damage anything I quit. By that time it was -20 out and the seeing was the sh*ts and it was hazy anyway. And I was pretty much at my limit to work in the cold. I'll just have to wait for warmer weather.

Kevin: I don't know about the rest of you but we are going a little stir crazy from the cold, and cloud and cold and no astro makes Kevin go crazy. So in the meantime I am:

- attempting to drill out some new holes in a dovetail mount and then
- tapping 1/4x20 threads into it; so the Meade DS90 refractor can be mounted on the LXD55 mount.
- replacing fluorescent 8' tube lighting in the garage with LED strip lighting (much more light for the same power!) and hopefully much less Radio Frequency Interference (RFI) for the RadioJove and Supersid systems;
- after having a decade-old Windows 10 laptop die from the latest security patch, I am replacing it with a Windows 7 system that will NEVER be upgraded to Win10! Oh, and now Microsoft says there are issues with older systems! Arrgg!
- trying to repair the old snow roof rake that broke years ago...there is lots of snow on the observatory roof!

Hank: With solar there have been opportunities to get out when it is not quite as harsh, but activity has been unsatisfactory. I do check on the observatory regularly and so far there are no snow or rain leaks which is surprising. I did image the Sun on January 13th but I am not impressed with the images. I don't have any other astro projects on the go right now.

Kevin there are NO ISS transits predicted for the next month from

Letter to the Editor

from Nova (Vancouver Centre), January 1978

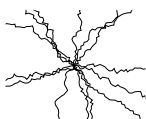
DEAR FRIENDLY EDITOR-TYPE PEOPLE:

By now, I'm sure everyone has heard about SAS [*Seattle Astronomical Society*] member **Brad Meyers'** BLACK DAY last summer. In the course of an hour, the following occurred:

1. After driving Celestron founder **Tom Johnson** to the Seattle-Tacoma Airport, Brad was sideswiped by some*7#@!% driver.
2. Frustrated, Brad had to rush home to demonstrate a C-8 for a potential customer. He set up the scope in his driveway and went inside to call his insurance man about the auto accident. About the same time he hung up the phone, he heard a crash. It seems two goats had broken loose, managed to wrap a chain around the tripod, and thereby demolish the C-8 with full-aperture solar filter.
3. Well, this was about all Brad could stand for one day. He took one look at the mess in the driveway, walked back to the garage and let out a scream. Now, listen carefully here, for things begin to get a little bizarre.
 - a) Brad had a set of University Optics 20x80 binoculars mounted on a tall tripod.
 - b) The last person to use them had not properly tightened one of the legs.
 - c) The VIBRATIONS from Brad's scream caused the tripod to collapse onto the cement floor of the garage.
 - d) Brad no longer has a set of University Optics 20x80 binoculars.

It is rumoured (by Brad himself) that Brad and his dog spent the remainder of the afternoon seriously sampling the spirits of the grape.

Only the car was insured.
Nuff for now,
Ron Ravneberg, SAS. ★



[I'm not sure this letter is all it is cracked up to be.—Ed.]

...Autumn Meeting Reports

...from page 3

to speak for a few minutes in person, which we thought was tremendous.

Susan: I also enjoyed the talk, I saw at least 8 of us there. Also a barrier to prolonged space life...no one has solved the radiation issues. One of the suspected problems being that after a while you would not care or be able to focus on all the critical tasks that you needed to perform to keep you and others alive. Having a whole crew develop Alzheimer-like brain defects would decrease chances of success greatly (as evidenced from rodent brain analysis).

Before the talk Michael and I were sitting in the foyer exchanging the year-end books when Dr. Bondar came over and asked if we were working! I explained that we were RASC Kingston Centre members and yes we would be attending the talk. What a pleasant woman. We fist bumped as she was unable to shake hands due to recent hand tendon surgery.

Brush with greatness!

Greg: Just saying...most of the sci-fi I have read since the 1950s includes some sort of centrifuge to replace gravity. I recognize that no one has done the engineering to determine how that actually would be done, but it does seem fairly obvious that many writers anticipated that a plumbing system that evolved in a gravity field would do poorly without one. Either that or a drive robust enough to boost at 'g' for the duration of the trip. I just finished 'Endurance'—fascinating read that reinforced my belief that the true miracle is that anything works at all.

Susan: I must assume that your 'Endurance' is 'a year in space' and not the Shackleton one.

Another point that was covered last night was how long it took for NASA to become 'unmarried' to the notion that all astronauts needed to be test pilots, delaying the entrance of women to the program. A rough

quote is...I don't care what you call yourself down here or up there, you're not flying it!

Greg: Yes, although the latter was an inspiration to the author of the former. No matter how miserable it seemed, it was better than what Shackleton's folks had to go through. With regards to test pilots though, they have an expectation that it is not like flying commercial.

Rick: I remember reading once, years ago, that the centrifugal gravity idea has problems. The writer said that the spacecraft has to spin at such a speed that trying to climb up or down the ladder from the non-rotating central hub (in the movies they always have one for ferry craft to dock into) to the rapidly moving rim the acceleration would be too high and you would be torn from or crushed into the ladder. I never worked out the numbers and obviously it depends on how fast you climb, etc. Plus, I always feel like, unless the spacecraft is huge, you would get dizzy going around in little circles all the time. (That is obviously something of a joke, but actually might there be Coriolis effects that really do induce coordination/balance issues when moving about?)★

...Observing Reports

here. I am contemplating ordering another cell phone adapter to try with different eyepieces as it would save using digital zoom.

Greg: I agree. Its only worth the suffering if the seeing is good. And here these last few 'clear' nights were anything but for the faint fuzzies we pursue.

Malcolm: I was able to get out one -20 night to work on the polar alignment of my mount. After using the Polemaster to improve it, I feel that the mount currently has the best alignment it has ever had. Wish I could use it!★