

The giant star **Zeta Ophiuchi** is having a “shocking” effect on the surrounding dust clouds in this infrared image from NASA’s Spitzer Space Telescope. Stellar winds flowing out from this fast-moving star are making ripples in the dust as it approaches, creating a bow shock seen as glowing gossamer threads, which, for this star, are only seen in infrared light. *Image credit: NASA/JPL-Caltech.* More info at <http://photojournal.jpl.nasa.gov/catalog/PIA16604>

Reports and Other Items

NEW RASC SERVER

The RASC’s old server had been running for six years and was due for replacement. So **Dave Lane** built a new one and put it into service on January 17th. The society’s website is noticeably much faster now thanks to the boost in horsepower!



The new RASC server has arrived!

UPCOMING SPEAKER TOUR

We don’t want to jinx it, but a multi-centre tour is currently being put together that will see **David Levy** speak to Kingston Centre on June 3rd. Stay tuned for more details as the big day approaches!

NATIONAL COUNCIL MEETING

The next NC meeting will be held at 10 a.m. on Saturday, March 23rd at the Toronto Airport Travelodge. ★

Upcoming Meetings

Monday, January 21 7p.m.

Speaker: Nathalie Ouellette
Nature vs Nurture: The Role of the Cluster Environment in Galaxy Evolution. Nathalie will speak on her research using space-based infrared telescopes to investigate this topic as well as a recent NASA press release including her specific contribution using the Spitzer Space Telescope.

Saturday, February 9 7p.m.

KAON Observing Session

Tuesday, February 19 7p.m.

Regular Meeting—*note special day*

Saturday, March 9 7p.m.

KAON Observing Session

Monday, March 18 7p.m.

Regular Meeting

Meetings are held in Room 324 at Ellis Hall on University Avenue at Queen’s University in Kingston, Ontario. **KAON** (Kingston Astronomy Outreach Network) sessions are held at Queen’s Observatory on the 4th floor of Ellis Hall. ★

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From Kingston Centre, the RASC, and Beyond...



The centre held its annual dinner on December 19th at Aunt Lucy’s. Read all about it on page 2.

Annual Dinner: December 19

Kim Hay, Kevin Kell

IT WAS A COLD AND DARK NIGHT, but that did not darken the spirits of all who attended the holiday dinner for the Kingston Centre. Introductions were made around the table, as we had new members, old members, and members we do not see often, come to share in a wonderful dinner and conversation.

We raised a glass to toast our event, and said a word or two in honour of our President, **Susan**, who was slaving away at writing an exam. Susan, I think **Peggy** and **John** had a desert for you.

We handed out door prizes: a set of Madoc rock coasters, a **Terence Dickinson** calendar and a movie... starring our greatest Bond ever, **Sean Connery**, in *The Hunt for Red October*. With handouts, calendars, and goodies for sale, our Treasurer was busy hopefully filling stockings.

Wishing everyone a wonderful Christmas and Holiday season, and

Happy New Year, we dashed away, dashed away, dashed away all.

Kevin: The dinner was a great success: a private room that was not too crowded and gave space to move around better, reasonable prices for meals (at around \$20 for the entrée), not too busy a location, a pretty quick-response kitchen, and a relatively quiet to allow for better conversations.

I passed out ten paper copies of the December issue of *Regulus* to those that wanted one, and we also passed out about eight paper copies of the *Journal* with the special LPA supplement, six copies of **Brian Hunter's** software collection on DVD, a couple of new business cards to everyone...all in all not a bad haul.

The door prize winners were:

Ruth Hicks (coasters), **Bruce Elliott** (calendar), and **Leslie Roberts** (*Red October* DVD).★

Telescope Workshop 2013

We've had requests for a telescope workshop for members to bring their scopes in and learn more about the setup and handling of them from the oldtimers in the group. So we will be scheduling a workshop when the weather gets warmer, either at our home in Yarker or possibly closer to/in Kingston, for a few hours before dark to use and setup the equipment in daylight and then maybe stick

around for a little bit of use at dusk. This will not be an observing session *per se* but more focused around telescope setup and operation.

If anyone has an idea of a place closer to Kingston that has parking, room for a half dozen scopes, and reasonable horizons and light pollution, please let us know.

—Kevin Kell & Kim Hay at the Starlight Cascade Observatory outside Yarker.★

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Equipment Loan:	Kevin Kell
KAON:	Susan Gagnon
Webmaster:	Walter MacDonald

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.macdonald2 (at)
gmail (dot) com

or:

Walter MacDonald
PO Box 142
Winchester ON K0C 2K0

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MON/TUE, DECEMBER 10/11

Rose-Marie: This being a rare night of clear in a week of upcoming crappy weather, I got all ambitious and hauled out the 10 inch scope. Looked at **Jupiter** and the 4 moons, peered at the **Pleiades** cluster, then targeted clusters in Auriga. Got **M38** and **M36**. My back cramped up. Got out a chair and cushion, scooped myself up to the eyepiece. Had the scope situated out behind the greenhouse in the triangle of dark left by the neighbour's outdoor light and the other neighbour's Christmas lights. I wanted to look at the Orion Nebula again but it was *just* at the ridge of the greenhouse and in the smoke of my woodstove chimney. Amazing how few things you can get in an hour, especially when you're learning how to point the scope. My cramped-up back and cold toes had me packing up and heading indoors to sit by the woodstove for a couple minutes to thaw out.

Earlier today I had the 4-inch scope, with solar filter, out for a couple minutes. The **Sun** at the time was behind the neighbour's trees, a few twigs in the way. But...got to see the two sunspots—what a lovely orange Sun I get with that filter.

WED/THU, DECEMBER 12/13

Rose-Marie: I got a notion to take the barndoor tracker and play with it; went out in the back field for about an hour. Got frustrated with fumbling around with mittened fingers, gave up and decided to just set the camera on 30-second exposures, hoping for an early Geminid. I did see about a dozen small meteors tracing back to Gemini, none of them showing up in the pictures. There was one that was not a Geminid: it came in from the west/northwest; I did manage to catch that one. Unfortunately the infuriating thing is that the pictures

are slightly out of focus, in spite of me having checked that at least 3 times.

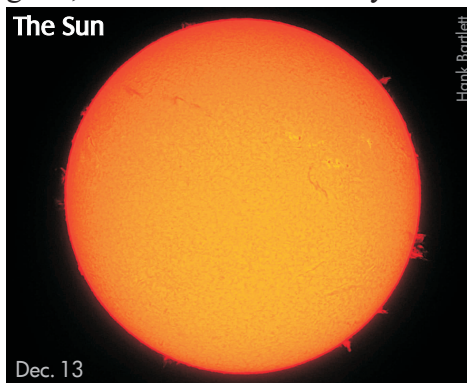
At any rate, here's the shot. It's one of those red-coal slow meteors, not sure if it's just me, but those type always seem to move with a jerky motion across the sky, probably just the visual effect of it brightening and waning ever so slightly.



Geminid Meteor. Image taken 23:06 EDT December 12 with a Canon Rebel XT, 18-55 lens, f/3.5, ISO1600, 30s.

THU/FRI, DECEMBER 13/14

Hank: I seem to have lost the glow for night astro a few years ago and have mainly done solar since. A good comet could change that for sure. Today was the first solar for me since Nov. 27th and that is far too long. Here is an image for perusal, nothing great, but some decent activity.



Kevin K: Gotta hate working for a living...around midnight it cleared up here...too late for us visually but the cameras had another very good night: should be around another 100 or so **meteors**, including at least 8 nice big ones! All the images are here:

<http://starlightcascade.ca/allsky2/>



Rose-Marie: Still trying to pry my eyes open and have had other things to tend to today, but I did manage to take a quick look through the 300+ photos: looks like I've got about 8 meteors. My first session didn't go so well. I had the alarm set for 1:30 a.m., put on my bathrobe and plodded to the back door, stepped out, saw a nice bright meteor in a clear sky. That got me moving. Got bundled up and set up the camera in the backyard. Now, I had checked and re-checked the settings and focus, remembering that frustrating focus issue from last session. I made SURE that the ISO was set on 1600, but my big thumbs must have hit the button again, it set back to 100. ARGH. After an hour of walking around the backyard and letting the camera run, I went in to warm up and download the batch of photos. I'm sure they heard the temper tantrum all the way to Napanee. After calming myself down and reminding myself that it was only 3:00 a.m. and I had plenty of time for more shooting, I got all bundled up again, loaded gear into the truck and drove over to the back of the cemetery to set up. I took pics from 3:32 to 5:29 when the last of the batteries ran out. I've got about 8 shots with meteors. I had set the camera up facing **Orion/Taurus/Pleiades**, and kept it in one position; figured while I was at it may as well pick a spot and let it run, may get enough images for a short video. Now, why is it that when you've got the camera facing one direction, the best meteors seem to fly in another



Rose-Marie Burke

the south, and then one individual starting barking and howling right over in the farm field beyond the cemetery fence. It wasn't too impressed when I gave a couple howls, started barking and gave a couple of short howls. I could hear something moving in the dried weeds in the unmowed part of the field, though whether coyote or a neighbourhood cat I don't know, shone the flashlight across the weeds but didn't see any eyes reflecting back at me. Another reason for a second camera body, take pics of what keeps me company during the night.

I shall process the pics and post a couple for you. I am happy that FINALLY we got some clear skies during the shower; the temps weren't too bad, and I got some shots!

Tim Seitz: I saw quite a few **Geminids** (I think) last night after midnight on Wolfe Island. (The ones I saw were to the left of Orion and down to the horizon in two cases.) The sky cleared around 12:30 a.m. and it was a show worth waiting for. After getting properly attired I then fell asleep. When I awoke with my frozen face around 3:15 a.m. I went to my heated Boler and slept soundly.

Ken Kingdon: At 2:30 a.m. EST (07:30 UT) on Friday, Dec. 14, 2012, I found **C/2012 K5** (LINEAR) from my light-polluted backyard in Kingston. I used only an 82mm refractor on a tripod, under skies of average transparency; my Limiting Telescopic Magnitude was 10.28. With such small aperture, it was dim, but distinct, and even had a small tail visible with averted vision. Planetary software allowed me to star-hop very quickly to its precise location, near **Mizar** in the handle of the Big Dipper.

Anyone with a larger aperture scope will enjoy this early morning comet, under moonless skies. It will slowly brighten until the end of December as it moves right across

Ursa Major (get an ephemeris from the internet if you do not have s/w).

I also saw two **Geminids**, plus **M3**, **M31**, **M1**, **M78**, **M42** before turning in 3 a.m. EST.

Now...where's that darn 12½" Dob of mine?

FRI/SAT, DECEMBER 14/15

Kevin K: By the time we got home after 22:30 it was still cloudy so we hit the sack. Allsky2 showed mostly cloud all night long and only three **Geminids** early this morning.

I am about to head up to the roof to remove and replace the Allsky2 camera with a newer, better one that hopefully will not have condensation in the northwest corner.

Kevin F: It stayed cloudy all night, and as the sun came up, it got clear!... After six hours of clear daytime sky, here come the clouds to make it a cloudy night. I don't know how many times it has been clear in the daytime, and then cloudy at night.

Kevin K replies: I do...I just count the remains of rum/eggnog or Black Russian glasses strewn about. Arrggg.

I got the new all-sky camera installed this morning but the new packaging precludes knowing its orientation...so we have to wait until the night sky is without clouds...oh...waitaminute...not until Thursday?

Kim did get out to do **solar** observing today...although it may have been a little sunny during the past couple of weeks' daytimes—except for some reason the lunch period. Amazing as it sounds lunch hours tend to be cloudier than the rest of the day.

WED/THU, DECEMBER 19/20

Kim: It was clear, -9C and so I went out to view the **comet**. I had tried with binoculars last night in the house and again when I went out this

direction? There were a couple really nice bright ones headed for Leo. I've decided to start looking for another camera body, see if I can find a used one, put it on another tripod and face it the opposite direction. It seems to me that the best part of the show was happening between 1:30 and 2:30, I was hoping that after 4:00 a.m. we'd get the usual pickup of meteors, but in my case it wasn't so. There *should* have been some meteors on that first batch, but even with post-processing that first batch I have very slim hopes of anything showing up.

I've discovered that driving the truck over to the back field has its advantages, for one thing fire it up now and then and have a warm place to sit while the camera runs. I think it was **Rick** who told us how to "set it and forget it" at the October meeting, thank you Rick! Beats the heck outta standing there on a cold winter's night and manually clicking each shot. There was a slight breeze, I started to curse at it, then realized that the breeze was preventing frost and dew from forming on the lens and told it keep on a-blowing. A couple of times I was serenaded by 3 packs of coyotes, one group started howling in the distance, another group over to

morning, but could not really see it.

So, I opened the observatory, and took Starbuck (8") with a 26 mm eyepiece, pointed it at the Dipper (**Megrez**) and off to the left a bit, and there it was—a very small faint comet, with a coma and tail. *Starry Night* has it at mag 10.93 and it is faint, but a wonderful sight nonetheless. I sketched the starfield, so when the mess of weather passes, I may be able to go back out.

Next, I swung the scope over to **Saturn**, which was rising in the east, still around 15° and low, but a welcome view, there was a whiff of cloud present by Saturn. **Jupiter** was too low in the west of the observatory view, so binoculars sufficed. A wonderful view with **Taurus**, **Jupiter** (−2.3) and the **Pleiades** (M45) in the same field of view.

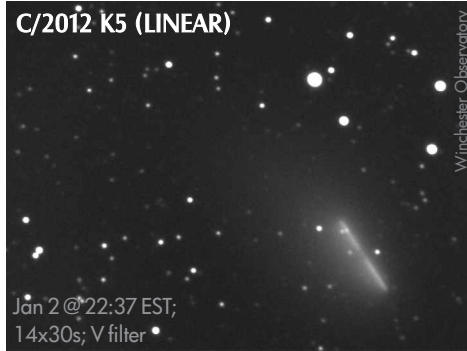
Then one of my variable stars with binoculars: **Rho Cas** still hanging in there at 4.9.

As I turned to come in, out of the corner of my eye, a meteor streaked over the zenith, mag 1, fast with a train—a sporadic.

I was only out for 30 minutes, but it was wonderful to get back out and be amongst the stars.

WED/THU, JANUARY 2/3

*A clear, cold, −20C evening had **Winchester Observatory** up and running, imaging variable stars. Centre members who didn't feel like going outside and braving the cold were able to follow the action via the Live Session web page.*



Walter: I did image **C/2012 K5** in Auriga—it was really moving along! I tried to continue the varstar run after imaging the comet, but the seeing got really bad, cloud was moving in, and the moon was rising. I didn't have time to do vars in Tau, Ori, and Gem, but I still had a solid 4 hours or so—and nice to get since this was my first varstar imaging since late September.

Kevin K: Just after we got home this evening...a very quick imaging session outside with the canon PowerShot A2400 on a tripod...a few 15 second exposures and we got the **Hyades** (with **Aldebaran**), **Jupiter**, and the **Pleiades**. After only 6 or 7 shots (?) or maybe 5 minutes outside, it was time to go in. The weather station is showing −18C here.

With two good dumps of snow, roofs everywhere are piled high with snow, and observatories are no exception.

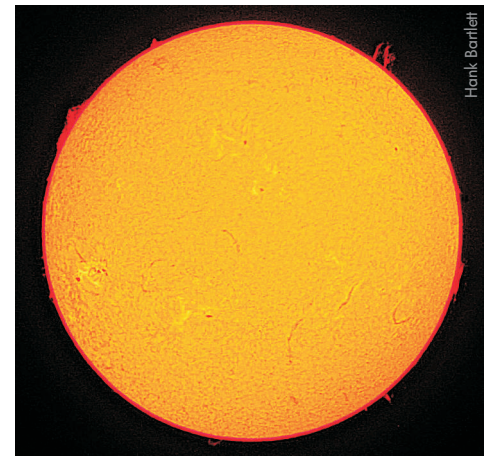
Winchester Observatory's dome was able to open, but not the nearby **Merry-Go-Round Observatory**.

Mark Kaye reported that his observatory shutters were firmly frozen shut.

Kevin K also reported: we too are suffering from too much snow on the observatory roof. I tried using a roof rake to pull it off yesterday but the snow was mostly ice on the bottom half and light crystal snow on top...only the top came off...until the roof rake broke. Bah humbug! Now we wait until maybe Friday when the temperature gets warm and we can get it all off the roof.

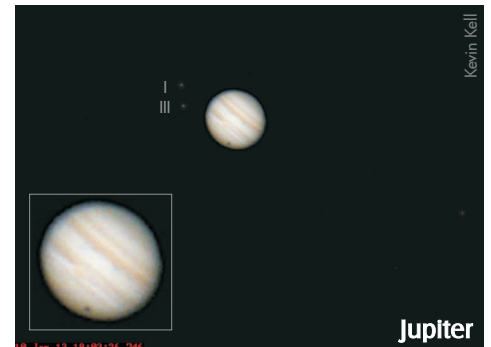
THU/FRI JANUARY 10/11

Hank: I had the afternoon off and got a chance to do a little solar before the thin cloud came in.



Kevin K: This is the first time in months that I can remember getting home and having it clear enough and warm enough to go outside and image **Jupiter**. It was cool and the front plate of the telescope did fog over fairly quickly last night even with the primary heater on 100%. (I forgot to put on the dew shield.)

Here is one of the last of 6k+ images without any processing:



Not bad at all. I am currently running DeepSkyStacker on 1456 of the images to select and register the best 80% (I ran it over night to choose the best 20% and it barfed...saying there was only one good image). I need a faster computer! Once that is done we'll try stacking them to see what happens.

Hank: Very nice and with **Io**, **Ganymede** (and its shadow) and **Europa**. Love this image. You are doing great stuff! Overdriving the

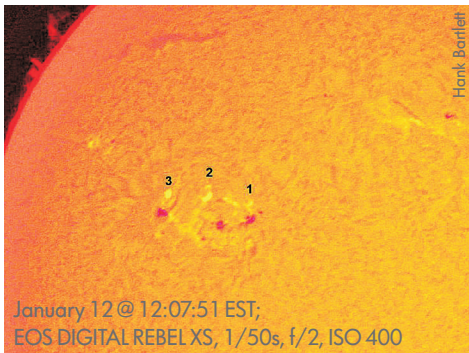
...Observing Reports

white exposure appears to show at least 7 stars as well unless they are just hot pixels.

Kevin K: The image is still unprocessed so I suspect there are a lot of hot pixels on the camera; we saw them in earlier shots. There is no ability to control the exposure on this combination of camera and software: it's all automatic.

SATURDAY, JANUARY 12

Hank: When I got home from lunch this morning it began to clear so I went out and took a series of 199 images; cloud was coming and going and seeing wasn't the best for sure. I tried using the 12mm eyepiece in my adapter but that required ISO1600 and was too grainy and showed dust spots on the lens. Too bad. I was lucky enough (I believe) to see consecutive flares from SS1654. When I first started observing, area 1 in the image was very bright then faded, area 2 remained about as bright throughout and area 3 became brighter very quickly as 1 faded. Image properties are listed below. Check out spaceweather.com: there is a good video but no times on it. Had the air been steady and the clouds stayed away you couldn't have torn me away from the scope. ★



I have made it a rule never to employ a larger telescope when a smaller will answer the purpose.

—William Herschel

New at rasc.ca

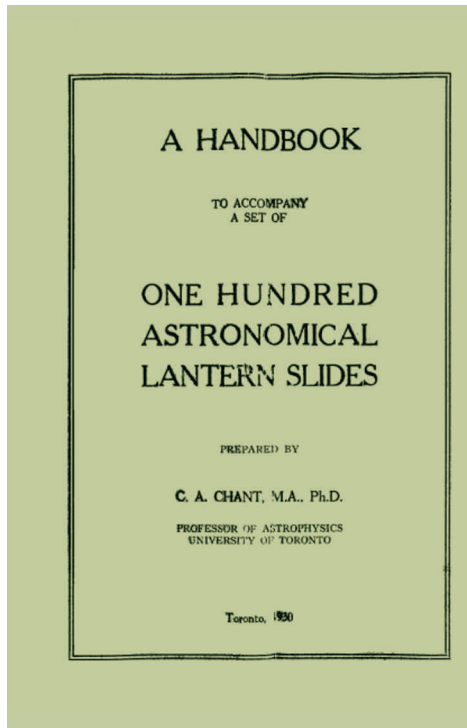
THE NEWEST ADDITIONS to rasc.ca are the **King** photo album of the Canadian eclipse expedition to Labrador in August 1905, and **C.A. Chant's** handbook for one hundred astronomical lantern slides.

In regards to the expedition (spoiler alert!) they were clouded out on eclipse day, but the album shows the many places and peoples encountered, the activities and hijinks of the expedition members themselves, and of course, their various equipment setups (including those of the expedition from England with whom they shared a site).

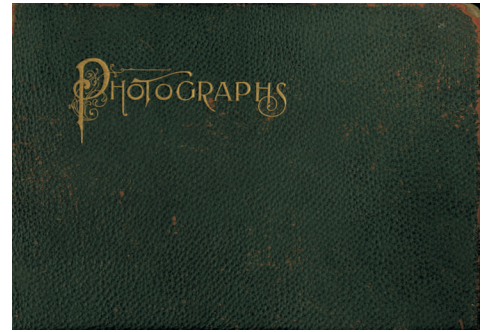
The album is available as a single file (DJVU and PDF formats) at rasc.ca/labrador-expedition-1905; in addition, the 96 pictures may be surfed at rasc.ca/archives/1900-29.

While the photos are captioned, there is no story provided, so a new web page has been added with C.A. Chant's account of the expedition: rasc.ca/labrador-eclipse-expedition

Don't forget the other photo album from this expedition, the **Maybee** album, downloadable at: rasc.ca/scrapbook-1905



Walter MacDonald



THAT interest in astronomy is growing in Canada is very evident. One need only point to the magnificent new observatory erected by the Dominion government on the outskirts of Ottawa, and to the fact that a fully-equipped expedition was despatched to the wilds of Labrador to observe the total eclipse of the sun on August 30th last. The Royal Astronomical Society of Canada had the honor of suggesting that an expedition be sent, and the generous spirit in which the proposal was received and acted upon is worthy of all praise. The society was allowed the privilege of naming six of its members to accompany the expedition.

—C.A. Chant
Reprint from

Christmas 'Acta Victoriana' 1905

C.A. Chant's 1930 handbook to accompany a set of one hundred astronomical lantern slides: Chant wrote this handbook to "provide an easy and pleasant introduction to the study of the sky" with the hope "that many of our young people may be led to form an acquaintance with the heavenly bodies."

In addition to the handbook itself, 95 of the 100 slides were also recently found in the archives at national office. The handbook is available as a single file (DJVU or PDF) at:

rasc.ca/100-lantern-slides

while the slides may be browsed at:

rasc.ca/archives/lanternslides ★