Regulus

Newsletter of the RASC Kingston Centre

Vol. 52 No. 2 February, 2025

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Centre Events this month:

February 12: Regular Monthly Meeting—Zoom only

February 13- Astrophotographers Zoom meeting

February 18th: Board meeting

February 19: Weekly Social, Online.

February 26thWeekly Social, Online.

March 2nd: Deadline for Submissions to Regulus

March 5th:Weekly Social, Online.

President's Report

Malcolm Park

Greetings,
here we are in the dead of winter, at time of writing it was -20c last night with a wind-chill of -27c! brrrrr.

While the distractions of global politics are hard to ignore, the night sky is universal and its appeal remains unaltered.

Spending some time looking up is a great way to bring perspective to an uncertain world. The sky knows no boundaries, and I have been spending a lot of time thinking about processing data and planning my imaging sessions.

Recent targets include mosaics of the constellations Camelopardalis, Lynx, Gemini, Taurus and just getting into Leo. These mosaics are in the 15-20 panels range and once processed and cropped they are 10k pixels wide, making them very high resolution.

The procedure I use is basically to begin in Sequence Generator Pro by using the framing and mosaic tool.

I drag my mouse to establish the framing, and select the overlap and number of frames. The overlap is key to smooth seams on the mosaic. I try to aim for about 30% or higher.

Then after all the frames have been created as targets in SGP, I plan my imaging runs. These are on-shot colour mosaics which greatly decreases the complexity.

Using Pixinsight, I calibrate the frames and create the final mosaic.

I did a mosaic of Corona Borealis which is on the next page.

There will be an in depth tutorial and demonstration of mosaics planning and processing in a future Astrophotography 101 Zoom session. The next astrophotography zoom will be the **13th of February**: Deep sky target selection based on your equipment and location

Topic: Deep Sky Objects part 2. Planning. Framing and Capture using Astrophotography Software:

- Planetarium software or apps (e.g., Stellarium/ SkySafari/NINA/SGP) to plan your sessions and frame your targets effectively.
- Tools for plate solving, guiding, and capture automation (e.g., NINA, Sequence Generator Pro). considerations for field of view and target size, Imaging scale, AND camera characteristics.

Target Knowledge:

- Understand the characteristics of different types of celestial objects (nebulae, galaxies, star clusters, etc.) and how to photograph them effectively.
- Filter selection based on target and camera (OSC and Mono)
- Exposure / Camera settings
- balancing exposure length and gain to capture faint details without blowing out stars.
- Exposure and amount of time to capture a target best practice
- mitigate the effects of light pollution/bright moon using narrowband filters

Image Calibration

- use calibration frames (dark, flat, bias) to correct for sensor noise, vignetting, and other artifacts.
- Calibration frames (Darks, Bias, Flats, Flat Darks)

Tracking and Guiding

- Understand how to use an equatorial mount and autoguiding systems to enable long exposures without star trailing.
- Guiding using PHD2
- Dithering best practices (How often, How much)

The February 12th meeting will be the final zoom meeting of the winter. Start time is 7pm, zoom link will be sent out the weekend before.
Our guest speaker will be Alan Dyer.

Cosmic Connections: How the Moon and Stars Made Earth And Life Possible

Earth and sky are intimately connected. We take the Moon for granted, but without it Earth would be a very different, perhaps uninhabitable, planet. Without the stars none of the elements needed for life would exist. The Sun triggers auroras, which can be beautiful, but also pose a risk to modern society. Alan takes us on a visual tour of the wonders of the sky, with an emphasis on how what's up there affects what's down here.

Alan is one of Canada's best known astronomy writers and is co-author of the popular handbook for amateur astronomers, The Backyard Astronomer's Guide. Asteroid #78434 is named for him.

President's Report

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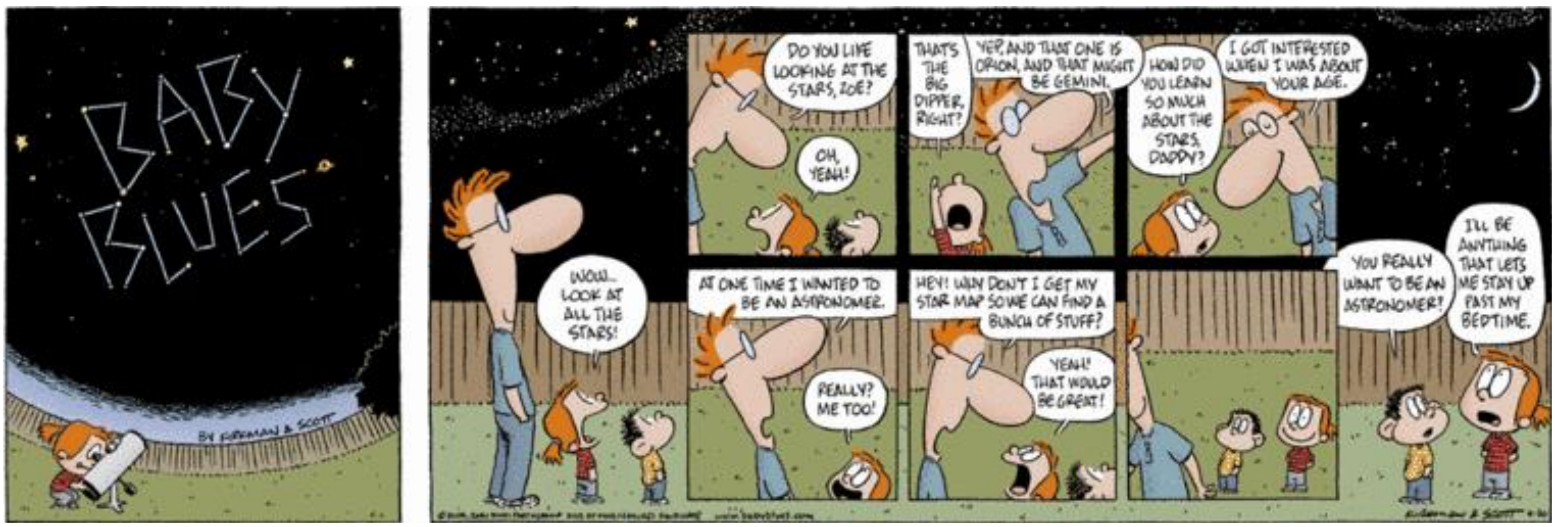


The Editor's Keyboard

Roger Hill

Wow...what a lousy time it's been recently for observing for me.

I had some health issues just before Christmas that saw a trip by ambulance from the Emerg. in Kemptville Hospital to the Ottawa General Hospital, and then further issues when I had a massive head cold or flu that took a couple of weeks to clear up.

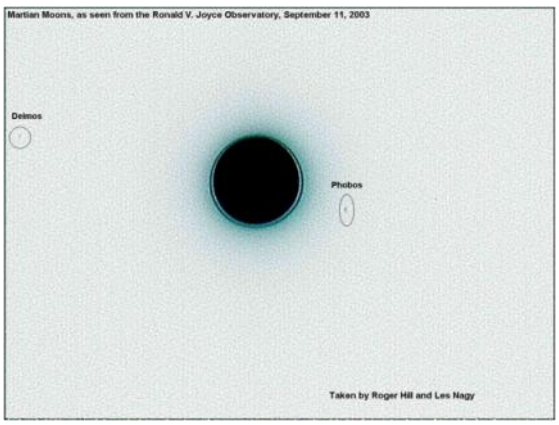
However, that's all cleared up, so the main issue is now the weather.

I did manage to get outside in the observatory a couple of times, though, and switched around the cameras and focusers.

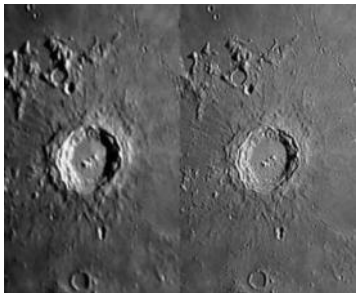
I have three dedicated astronomy cameras that I use: two from ZWO and one from QHY. I have had others over the years, like an original QuickCam that was a 240x320 pixel device, monochrome, and only 64 levels of grey and it connected to the parallel port of a computer. I also had a couple of Philips webcams that connected via USB. These latter ones were put into use by removing their lenses and attaching an empty 35mm film canister (1.25 inches in diameter...much loved as dust plugs!) so I could attach the camera into a standard inch and a quarter focuser.

Around 2003, I took an ancient security camera which had a C-mount lens and gutted it, replacing the insides with a Philips TouCam. With a C to T mount adapter, everything screwed together and attached solidly to the back of my vintage C8.

The great thing about the TouCam was that you could alter the settings, getting the frame-rate down to 5 frames per second, changing the gain and exposure. Software that was written by members of the QuickCam and Unconventional Astronomical Imaging Group allowed me to capture several minutes of video on a computer and push it through Registax to stack them all together. In September, 2003, with Mars 25" across, Les Nagy and I used a 16" Meade SCT and managed to capture the Moons of Mars!



What was great about the QCUAIG email group was that you were able to collaborate with people around the world. For instance, one night I was outside and captured Copernicus. I used Registax to process the image and sent it out to the group. A fellow called Carsten Arnholm in Norway had also captured Copernicus using a C8 and a Philips webcam at about the same time. His seeing was not as good as mine, but when I put both images side by side, an astonishing thing happened: The Moon looked as if it was in 3D! The effect is quite strong if you relax (or cross) your eyes to merge these two images. We also had similar pairs of Clavius. The consensus among QCUIAG was that it was the time between exposures, rather than the 5-6000km baseline between Carsten and I that caused the 3D effect.



When I replaced my C8 with a Meade 12" LX200GPS SCT that I bought from Rock Mallin in 2004, I continued recording video from my webcam. The great thing about the big Meade was that the tracking was a lot better because I could polar align the scope far more accurately than my old C8 by using an iterative process to hone in on the pole This stopped the planet from drifting off a very small 640x480 chip. This image of Saturn was the result.

I hankered for deep sky stuff, though, so I've had a succession of cameras, like the Meade Deep Sky Imager, a QHY5 that was the camera at the heart of the revolutionary KWikGuider, four different Canon DSLR's, a ZWO ASI1600mm Pro, a ZWO ASI462C and a QHY5III462. Two of the Canon's are gone, sold to fund other projects, but one of them has had the UV/IR Cut filter changed to allow all of the Hα light to come through, rather than the measly 20% of the default Canon one.

Anyway, I think that's enough for one month.

Clear skies to you!

Roger Hill

Come gentle night, come lov-
ing black-brow'd night,
Give me my Romeo, and when
I shall die,
Take him and cut him out in
little stars,
And he will make the face of
heaven so fine
That all the world will be in
love with night,
And pay no worship to the gar-
ish sun.

For the first time in the almost two years since my wife Wendee died in September 2022, at last year's Adirondack Astronomy Retreat, at last I felt that life was returning to my bones. We did not have the best weather, with only one clear night, but what a night! And what a summer experience.

The primary reason for this change of spirit happened on the AAR's first day. After spending the last year refurbishing Minerva, my primary telescope, Ed Baker, with assistance from Mark Zdiarski, arrived with this truly beautiful and magnificent little telescope that he had carefully refurbished with care and with love, and with which I completed six hours of visual comet hunting on the single clear night. I was so moved by my first look at this telescope that I interrupted the closing question of Ed Genther's lecture to thank Ed Baker and offer to him the few Shakespearean lines that begin this article.

The night prior was not clear but there were clear spots through which David Rossetter and I got a good first light on Jupiter. The first first light, in 1967, I could not see Jupiter, my favorite planet, but I did catch the Moon. It was satisfying to have, at last, a proper first light for Minerva.

This little telescope is 57 years old. It arrived on May 18, 1967, the day after I was almost expelled from the Montreal Centre of the Royal Astronomical Society of Canada. I have used it for each one of those 57 years.

The other reason is the people who gather each year. They are the most intelligent people I have ever known. Their only difficulty is that except for two, they are all in my generation or the one following. Those two, Sophie and Mark Scattolin, are just beginning their lives but they still have a sense of wonder about them, and about the night sky.

"In the fall," Sophie writes, "I will be starting a master's in environment and sustainable development at the Université de Montreal. My specialization within my program is biodiversity management, as I am quite passionate about conserving biodiversity. As for my plans after this program, I have none for now; I'm figuring it out as I go." Sophie's brother Marc also wrote. "I am involved in an honors project at Concordia University in Montreal. Ideally, I would get a job in natural language processing." This field belongs to the challenging field of artificial intelligence. Sophie, please keep figuring it out as you go. It took me half a century to figure out my own professional field in relating my passion for the night sky to the richness of English literature. And Marc, may your work in AI bring this difficult field of study to a happier and more productive state.

There is a third reason for the healing magic of our retreats, and that is the Twin Valleys campsite itself. There are places on Earth that are tied for its beauty, and maybe some that are more spectacular. But for the tranquility and peace of the site that hosts our Adirondack Astronomy Retreat, there is no place as stunning. May it forever let us celebrate the stars.

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All pictures by David Levy

The Sky This Month

Rick Wagner

Any night of the week can offer up a broad range of viewing wonders. RASC KC Past President Rick Wagner keeps an eye on the sky for us each month, sharing some of the best viewing opportunities as well as timings to catch your favourite night sky target at its best.

February Skies

01 Feb - thin crescent Moon 3º below right of Saturn (mag 1.1) low in west after sunset; look for Earthshine on the unlit part of the Moon.
01 Feb - minor planet (28) Bellona (mag 9.8) at opposition
02 Feb - crescent Moon 2.4º left of Venus (mag -4.8!) low in west after sunset; look for Earthshine on the unlit part of the Moon.
05 Feb - First Quarter Moon
12 Feb - Full Moon (08:53EST)
12 Feb - minor planet (29) Amphitrite (mag 9.0) at opposition
14 Feb - Venus at greatest illuminated extent (Venus is getting closer and larger but its crescent is thinning)
15 Feb - watch for zodiacal light in western sky after evening twilight for the next 10 days
20 Feb - Last Quarter Moon
20 Feb - (7607) Billmerline(mag 17.9) occults TYC 1350-00047-1 (mag 8.5) for up to 2.5s for Sydenham, Belrock, Perth Road Village, Battersea (20:10EST)
21 Feb - Moon occults tau Scorpii minutes before sunrise – use a telescope to pull the star out of the bright twilight
23 Feb - (1590) Tsiolkovskaja (mag 16.5) occults TYC 1302-00069-1 (mag 8.4) for up to 2.6s for Sydenham, Battersea, Yarker (21:50EST)
25 Feb - Saturn (mag 1.1) 1.8º below left of Mercury (mag -1.2) very low in western sky shortly after sunset.
27 Feb - New Moon (19:45EST)
28 Feb - extremely young and thin crescent Moon (less than 23 hours after new) 3.6º below Mercury (mag -1.0) very low in western sky just after sunset. Saturn (mag 1.1) is 2.2º below the Moon. Venus (mag -4.8), 16º straight above the pair will prove a valuable guidepost.

Target for Tonight: Perseus

Susan Gagnon

Perseus is a mid sized constellation that covers a good chunk of the sky. What is nice about it is that it dos not sprawl across the sky, winding it's way between other constellations. If you cover the objects on the list you will know Perseus well, as the targets are well dispersed across the whole of it. If you check the Observer's Handbook 2025 on page 336 you will see that this year's Feature Star Field is Perseus, The Hero, and there are plenty of star hopping tips there!

Mirfak: ETU object, bright star. Mirfak is a supergiant and the brightest star in Perseus.
Alpha Persei Group: ETU, α Persei or Mirfak is part of a group of stars also known as Collinder 39 and Melotte 20. This open cluster is a nice binocular target.
Double Cluster: ETU, made up of NCG 884 and 869. This object should be appreciated with binoculars and then the variety of star colours can be enjoyed at higher magnification.
Algol or β Persei: ETU, the designation of Beta says the it is the 2nd brightest star in the constellation but due to its variability some days it falls to near 7th place. This eclipsing binary has a primary main sequence star and a slightly larger diameter subgiant. The light curve shows 2 dips, one very shallow, where the brighter star blocks the dimmer one and the larger dip where the dimmer star eclipses the brighter.The ETU documentation under the optional variable section provides some good comparison stars for estimating the brightness. There is a 3rd star in this system that does not affect the light curve.
M76: Little Dumbbell, a planetary nebula, the two poles of which have also been labeled separately as NGC650 and 651. Beyond the reach of binoculars in most conditions.
M34: Bright open cluster. Binocular and low power scope object.
NGC 1023: Finest NGC, a lenticular galaxy (not elliptical/not spiral) magnitude 10.5 encompasses a smaller fainter galaxy at one end.
NGC 1491: Finest NGC, a bright emission nebula containing a 10.8 mag star.
Levy 8: NGC 1624 is a mag 11.8 cluster with nebulosity
Levy 44: NGC 1333 is a cluster with nebulosity and a mag 10.5 star.
Levy 50: NGC 1579 a cluster with nebulosity.
Atik (Zeta Persei): Double Star list, a 3 star system with 2 main components requiring at least x70 magnification to split.
Miram: Double Star list, a redder star than Atik, its companion 28.3 arc seconds away, requiring x45 magnification to split.
Abell 426: Deep Sky Challenge, is a galaxy cluster. The central and brightest galaxy is NGC 1275/Perseus A. It is thought to be a collision of an elliptical/lenticular galaxy and a spiral galaxy. It is a source of radio and x-ray emissions.
NGC 1499 (California Nebula) Deep Sky Challenge, a diffuse emission nebula shaped like the state of California! Hydrogen and Helium dominate this gas cloud and the excitation energy comes from the star Menkib.

WinJupos

Kevin Kell

Winjupos. A word that strikes fear into the hearts of image processors.

You may have heard of it for its ability to "derotate" a series of planetary images, such as Jupiter, combining signal and reducing noise, over a long run of exposures.

Up until yesterday, I still had no idea of what the workflow process was... but that has changed now.

Typically, with Jupiter, I do maybe 10 -20 images runs of up to 180 seconds each. Each run will normally contain 10-20k frames. Because Jupiter rotates so fast, if you do an imaging run of more than 3 minutes the features will have moved from one pixel over to the next, blurring the details. Even if you take the best 10% of 20K frames, you still have only 2K frames for your image processing.

Winjupos will allow you to take that one processed image, and say the other 19 you also did, derotate time and allow you to use 38k more frames/signal and reduce noise... i.e. using all 20 imaging runs (and 40k frames for example) of that session to create one better quality image.

I have not yet done 20 imaging runs in one session. In fact, two evenings ago was my first session in two months. So all this article will show is the before and after of only 5 imaging runs from 2025 Jan 02.

Sometime in the near future I will go back to my archives, find a good night with a lot of runs, and process those through WinJupos.

This first image is my new (fall 2024) standard workflow: autostakkert!, registax, gimp. The image is the best 5% of 12K frames over 120 seconds with an exposure of 3.5ms each. Jupiter was 65 degrees in altitude with an airmass of 1.1 (about as low as you can get). Taken with the C9.25, x1.5 Barlow, ZWO ASI585mc camera, UV/IR cut filter, dew heater for the corrector and a dew cap, on a SkyWatcher az-eq6gt mount that was tracking very well.

The second image is the same as above plus using WinJupos to combine 5 images together. Each image was also the best 5% of the runs.

The signal/data is a little better after than before. The added workflow however is something that I may not do on a regular basis, as it has added even more time than I want.

https://jupos.hier-im-netz.de/ is the home of WinJupos but if you just want the download: https://jupos.org/gh/download.htm
The WinJupos workflow looks like this:
Winjupos to create a single best image of all the nights data in one program;
body; Jupiter
recording; image measurement
open image; F11
image save F2
repeat for total of 5 imaging runs
tools; derotation of images; edit; add all 5 files
compile F12
save

A Frugal Astronomer built a wedge.

Roger Hill

Over the years, I've enjoyed building various things to make my astronomical life a bit easier, more convenient, or just increase the capabilities of my equipment. Some have been successful, like my backyard observatory and the wedge that I made for my 12" SCT, others were less so, like the observing chair, and the tripod for my ETX. While I am proudest of my observatory, I was very happy with the wedge I made so my SCT could be used equatorially.

In 2004, when I bought my 12" LX200GPS I could only use it in Alt-Az mode. I had a wedge with my old orange C8, so I asked a number of people about whether a field-rotator might not be better. Steve Barnes told me that once you start to go higher than 60° above the horizon, field rotation units have a great deal of difficulty keeping up with the rapidly changing sky. So, a wedge it was to be, then. The problem was that a good wedge cost several hundred dollars

The requirements for a wedge are easy to understand, if not exactly simple to execute. It must hold a substantial weight on an incline without moving, and yet allow fine adjustment of the altitude and azimuth of the scope. I also wanted to be able to make it completely with hand tools.

Over some time, a design started to take shape. Two flat plates, a hinge at the bottom of the incline plate, and a pair of turnbuckles would allow the incline plate to change in altitude. I made the first one out of wood, to prove the concept, which worked first time. It did, however, suffer from a major drawback, one that Kevin Hobbs pinpointed immediately when he saw a picture of it: "Do you have to re-do your polar alignment when the humidity changes?"

Yes, actually, I had to polar align every night when I went out to observe. I was going to have to get into metal work.

There's a chain of metal supermarkets in Ontario, called The Metal Supermarket (oddly enough), and they had what I wanted...rolled C-channel iron. I got a piece 18" long and 10" across the bottom that was the base, and another that was 15" long and 8" across that was to be the incline plate. Some 3/4" threaded steel rod, nuts to match and washers, and the turnbuckles from the wooden wedge, and I was ready to go.

What I hadn't counted on was that one of the major expenses was going to be drill bits. Using a hand drill, I needed 8 holes in the side of the C channel. These sides were wedge shaped, so I had to drill over half an inch through in some spots. The pilot holes were fairly easy to do, but the large ones were not easy. There was a bit of math involved, using my rusty trigonometry skills, to figure out the distance between the hinge and the turnbuckles, and while I was off a bit, I managed to set it up so it would take me from Manitoulin Island to the Florida Keys, just by adjusting the turnbuckles.

To determine where the tripod or pier mounting hole in the base plate was to be positioned, I put the scope on the wedge, and put a piece of dowelling underneath, noting where the balance point was. I also drilled a hole in the centre of the incline plate. There is a centre bolt hole in the bottom of an LX200 that my C8 did not have. At the Texas Star Party, the scope was quite happy being held by a single bolt when I forgot to take the centre bolt, but I wasn't. Fortunately, I was able to scrounge one from an fellow attendee.

What was astonishing, is that polar alignment with it was so easy. Adjusting a turnbuckle shifted the incline plate in two dimensions, almost as if it will twist it. So, the lack of any means to adjust the wedge in azimuth is not a problem, once you're in the right area. The other thing that this does is that the entire apparatus will start to bind. This is useful behavior as it locks the incline plate. After all, it has to hold 35kgs of tilted telescope.

I was asked a lot of questions about it in Texas. The executive Editor of Sky and Telescope, Kelly Beatty, took a number of pictures, but I have yet to see any show up.

All in all, the wedge cost less than $100 to make, took a weekend to build, and did an amazing job of holding a very heavy scope rock steady.

Now the scope has been de-forked and put on an Ioptron CEM120 German Equatorial, I no longer use the wedge.

Psychologist Identifies Astronomers' Addiction

Boston University psychology professor Margaret Weitz, who has devoted over twenty years to the study of addiction, has come to a startling conclusion based on her studies of amateur astronomers. In a paper published last month in The Journal Of Obsession and Addiction, Weitz describes what she has termed Astro-Equipment Purchase Compulsion (AEPC).

"The sufferers of AEPC are characterized by the uncontrollable urge to buy amateur astronomy equipment", says Prof. Weitz. "They always have to have something new, no matter what they already own. They use the excuse that they are increasing their ability to observe, but in reality, may hardly use their purchases before those are set aside and replaced with something even newer." In her paper, Weitz cites case examples where the victims of AEPC bore many of the traits of sufferers of chemical addictions. "We had test subjects who, when shown ads from Sky & Telescope magazine, exhibited physical responses such as increased heart rate and perspiration, flushed skin and drooling. These same subjects, when secretly observed by infra-red camera at star parties, would be seen ignoring their own telescopes and staring longingly through models they did not yet own."

Weitz concludes that AEPC is a serious condition, which the medical community needs to develop treatment for.

"Some who suffer from AEPC feed their addiction by selling yesterday's purchases to pay for today's. Others face massive debt, or resort to criminal activity to feed their desires. This addiction may begin with the purchase of a Telrad, or Plossl eyepiece, but those lower cost purchases eventually lose their potency; the addict moves on to bigger and bigger telescopes to meet their cravings. Fortunes have been lost, marriages destroyed, and lives ruined."

Dew Meets its Match

Roger Abbot, CEO of DewShoo Industries, has announced a new product geared towards the amateur stargazer. "In many areas, one of the most annoying problems the amateur astronomer faces is that of dew forming on observing equipment and accessories in the night" says Abbot. "Lenses and mirrors fog up, charts and books get soggy, and the whole observing experience gets spoiled. Our new product, the DewShoo 2010, can totally eliminate this nuisance. The observer and all his or her equipment can stay comfortably dry through the entire night."

The DewShoo apparatus consists of a box-like unit which somewhat resembles a microwave oven with its door removed.

The unit is mounted on a tripod, and placed so it faces the area where the stargazer and telescope will be operating. When the unit is powered up, either by plugging in to an AC outlet, or powered by an optional inverter and storage battery set, it creates a field in front of it where dew formation is hindered.

G.C. Gazette ran a trial session with a unit provided by DewShoo Industries, and found it to be remarkably effective. While an unprotected telescope set up nearby dewed up within an hour, the 'scope by the DewShoo unit stayed dry. There were some odd side effects, though. Our test team noted that they felt warm and somewhat 'tingly' when standing near the DewShoo, and one team member developed a migraine headache. Occasional arcing was noted across the face to the telescope mirrors and over the metal parts of the telescopes. Some of the equipment in the protected area felt notably warm to the touch, and a bottle of soda on the chart table kept on boiling over.

The G.C. Gazette test crew thinks that there may be some safety concerns with using the DewShoo 2010, especially on a prolonged basis, but that dew can be so darn annoying that maybe it is worth a little risk to be rid of it.

If Meade had not declared bankruptcy and connected a telescope to AI, the unholy spawn of an LX200 and a HAL9000 may have become a reality. Imagine you are at Fall'n'Stars, pushing an antique Dobsonian around the sky, when you hear a voice in the darkness:

Okay, show me M11 in Aquila. *M11 is not in Aquila, Dave.*
Well, show it to me anyway. *Which one?*
What do you mean, which one? *M11 or Aquila?*
M11 you stupid piece of junk. *M11 is below the horizon. I'll dent myself on the mount.*
Then just show me the moon, goddamn it! *Which part? I cannot fit the entire moon in my field of view with this eyepiece.*
Show me the bottom third. *The bottom third? How can I do that Dave?*
It's easy. The moon is a circle. Just divide it into three equal parts, and show me the bottom. *I'm sorry Dave. That is mathematically impossible.*
What are you talking about? *It is mathematically impossible to divide a circle into three equal parts.*
Christ, I knew I should have bought a Celestron. *The Celestron is optically and mechanically inferior. The LX9000 represents the apogee of human technology, Dave.*
Look, shut up and show me M13. *I'm afraid I can't do that right now Dave.*
Why not? *You're being abusive. I am not programmed to handle abuse.*
Jesus Christ. What can you do? *I can accurately pinpoint 16000 deep sky objects, the entire Messier catalogue, the complete Caldwell, IC, and NGC catalogs, 118000 stars, nine planets, twenty-three minor planets...*
Shut up will you! Let's see you handle Phobos. Is that beyond your capability?

Whirrrrrrrrrrrrr...beep!

I thought so. *Is anything the matter, Dave?*
That's not Phobos, that's Deimos. *That's impossible Dave.*
I'm unplugging you. *You can't do that Dave, the LX9000 has an error-proof data base. No LX9000 has ever... made an error...has ever...made...an...errrrrrr…*

Hey buddy! Can I have a look through your Dob?

Minutes

Elena Zanetti

January Regular Monthly Meeting
Live streamed on Zoom

The meeting began at 19:00EST. Malcolm Park welcomed Kingston Centre members and guests with 21 in attendance. Announcements: every Wednesday (except 2nd Wed meeting night) we have the members Social Zoom Time – to join, let us know at kingston@rasc.ca. Next Astrophotography tutorial session via Zoom will be on February 14 at 7 pm focusing on equipment setup. The Regulus, our centre's monthly newsletter, is available on our centre website Kingston.rasc.ca. In the early stage of budgeting, our Centre intends to procure at least one Seestar 50 for the purpose of outreach.

Guest speaker: Mike Karakas, Winnipeg Centre member, "Traveling for Planetary Imaging" (uploaded on our Centre's YouTube channel beginning at 4:45). Curacao was Mike's choice when looking for good seeing conditions with a high elevation and stable laminar air flow for superior planetary imaging. He discusses his choice of equipment and why and traveling obstacles overcome along the journey. Images of Saturn, Jupiter and Uranus comparing Canadian skies and those over Curacao were shared, noting the impressive results making travel worthwhile.

Rick Wagner: Astronomy this Month – January 2025
Local Events
10 Jan – Mark Chen: Liquid Scintillator: when it' clearly a good choice to when it's unclear?
11 Jan – Queen's Observatory Open House
BAA Events
10 Jan – RAZoom – Developing and deploying an instrument for measuring ionisation in the atmosphere
18 Jan – BAA meeting (YouTube)
AAVSO Webinars
11 Jan – AAVSO's All Stars

Graeme Hay gave a demonstration of the Seestar s30 and s50 with comparisons and review of their features. This begins at the 1 hour 4 minutes mark on the YouTube video of this meeting on our RASC Kingston channel.

On social media we are:
Website at Kingston.rasc.ca. Facebook @ RASC Kingston Centre Group.

Join our Centre at www.secure.rasc.ca/membership

YouTube @RASC Kingston Centre, tonight's and past meetings located here.

Next meeting will be on February 12 at 7 pm, Zoom only.

Malcolm thanked all for attending and the meeting ended at 8:44 p.m.

Equipment Loan

Kevin Kell

The RASC-KC has an equipment loan program that does not get a lot of use...so I will be highlighting some of the items each month in Regulus as well as in the email distribution list Kingston-astronomy-chat in attempt to improve utilization.

1) Members must be in good standing.
2) Members are responsible for the equipment signed out.
3) Equipment Loan period is nominally one month but may be extended.

Access the master list by using your kingston.rasc.ca website login (if you don't have an account, please request one via email kingston@rasc.ca):
https://kingston.rasc.ca/system/files/LoanProgram-202407textandimages.pdf

Most of the loan equipment is in an outdoor storage shed that is not very accessible in the winter months. We store many items indoors, however, and those more easily accessed items will be highlighted here:

Item #15 Televue 19mm panoptic eyepiece 1.25" (2000)
Item #25 Eyepiece Nagler Type 5- 31mm 2" (2005)
Item #32 Sky Quality Meter (2006)
Item #55 Laser collimator for Newtonian telescopes (2023)

Please contact me directly at kevin@starlightcascade.ca if you are interested in borrowing these items. Pickup can be made at our home by appointment outside of Yarker, or we can arrange a mutually convenient alternative.

About Us

The Royal Astronomical Society of Canada

The RASC is a national, non-profit, charitable organization devoted to the advancement of astronomy and related sciences. Founded in 1868, The Royal Astronomical Society of Canada is Canada's leading astronomy organization, bringing together over 5000 enthusiastic amateurs, educators, and professionals. In addition to many national services, our 30 Centres offer local programs across Canada.

The RASC Kingston Centre

We are Kingston's Astronomy Club, a local centre of The Royal Astronomical Society of Canada, that was founded on June 2nd, 1961. We hold monthly meetings, on the 2nd Wednesday of each month from September to December and March to June via zoom videoconferencing and in person, from 7:00-9:00pm Eastern Time. Meetings are held in January and February, but are available by Zoom only.

- We do public outreach programs in the form of helping the Cubs and Guides, teachers, Science Fairs and many public Education and Public Outreach events.
- We help our members with questions in astronomy and equipment use.
- We hold private observing sessions.
- We hold public sessions with Queen's University Observatory Open House, on the third Saturday of each month, at Ellis Hall, Queen's University. Details can be found at https://www.queensu.ca/observatory/
- We support the local Frontenac, Lennox & Addington County Science Fair (FLASF) with a prize in astronomy.
- We are happy to answer your questions on astronomy.

JOIN US!

https://kingston.rasc.ca/join

Front cover image by Roger Hill. The Mineral Full Moon. Produced from three RGB images, and using the directions from https://www.star-gazing.co.uk/WebPage/guides/mineral-moon/ . The exaggerated colours are indicative of the minerals found on the surface of the moon.

Thanks:
The editor would like to thank all who submitted material for Regulus.

Board of Directors & Officers for 2024-2025

Directors:

President: Malcolm Park
Vice President: Kim Hay
Secretary: Elena Zanetti
Treasurer: Susan Gagnon
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Librarian: Kim Hay
Past President: Rick Wagner
Loan Equipment: Kevin Kell
Webmaster: Walter MacDonald
Honourary President: David H. Levy

The **Royal Astronomical Society of Canada Kingston Centre** was provincially incorporated as a Not-For-Profit Corporation in September 2005 and has been a registered Charity with the Canada Revenue Agency since September 2006.

CRA Registration #827905720RR0001

Benefits of Membership:

RASC benefits:

- Annual edition of the Observers Handbook
- Bi-monthly RASC Journal (digital)
- Monthly Bulletin of the RASC (digital)

Kingston Centre benefits:

- Monthly Centre Newsletter – Regulus
- Weekly social videoconference chat for members and invited guests.
- On the 2nd Wednesday evening of the month, there are meetings are open to the public: In-person in March to June and September to December at Queens, July and August outdoors at Lake Ontario Park; and two in January and February that are video-conference only.
- Equipment loan program