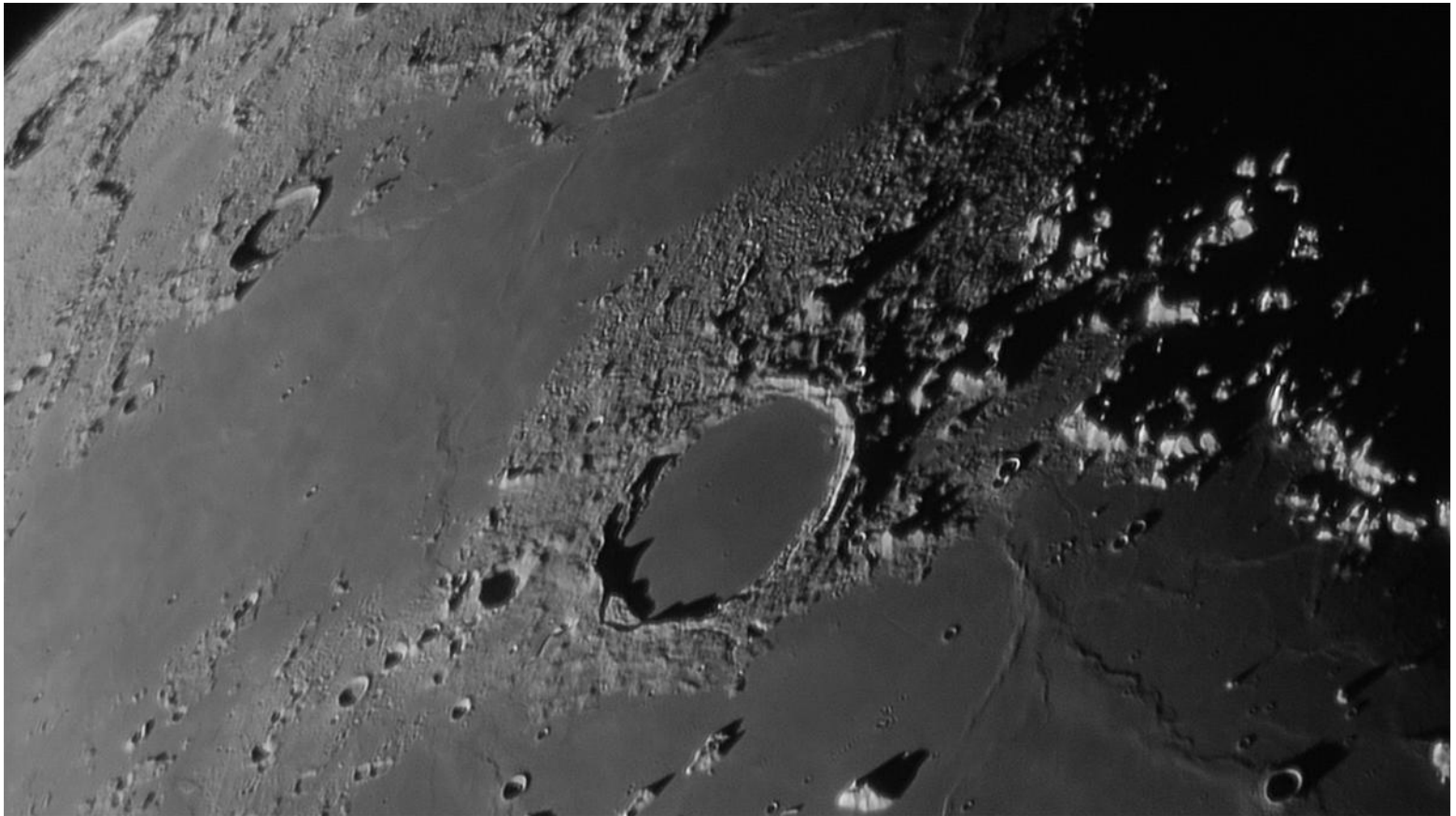


Regulus

Newsletter of the RASC Kingston Centre

Vol. 52 No. 7

September, 2025



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Centre Events for September, 2025:

- Sept 3: Zoom Social Meeting
- Sept 10: Monthly meeting 7pm at Queens University
Room 319, Ellis Hall,
58 University Avenue, Kingston
- Sept 17: Zoom Social Meeting
- Sept 19-21: Fall'n'Stars
- Sept 28: Deadline for October issue of Regulus

PLEASE NOTE: The meeting room for September only has been changed. October will see us back in our regular Room 226.



It's September, 2025 already!
Time sure flies.

The summer was full of interesting activities and news in the RASC Kingston Centre.

The Kingston Centre will be looking for a new Board

Member at the AGM in November.

If you are interested in joining the Centre's Board of Directors, and holding the office of Treasurer, this position is coming up for election as Susan Gagnon has notified us of her intention to step down. We are grateful for the contribution that Susan has made to the smooth operation of the centre in her capacity as Treasurer, and Board Member.

To find out more about what it means to be a Centre Treasurer, there is a basic training zoom meeting scheduled for September 18th at 2pm EDT.

A link to the zoom can be found on the RASC Kingston All-Things Astro Calendar, on the Kingston.rasc.ca homepage. Or you can find the link in the Centre email chat list.

The functioning of this Astronomy Club depends on volunteers like you and me. Please let me know if you are interested.

It was a busy summer for the Centre, as in July one chapter of the Centre was closed, while a new chapter opened in August. I'll explain:

The Centre Observatory project came to an end in 2025 as we came to the conclusion that the dome which we had stored for many years would not be operational as part of an observatory anytime soon because a permanent site was never found.

The Centre turned to members for ways to utilize the dome materials, and RASC KC Member Kevin Wenkoff took the opportunity to repurpose the materials for his own observatory.

Rather than see the dome languish in storage on Tessa Clarke's property ad infinitum, we put together a work crew on July the 4th, and all materials were loaded onto a trailer. John Hurley provided the muscle vehicle (pickup truck) to haul everything to Bellrock from Kingston Mills.

Thanks to Kevin and Karen for hosting a lovely lunch after the big move.

Many thanks to all the members that showed up for The Big Move, and special thanks to Tessa and Kenn for providing a storage site for all these years.

Hopefully Kevin will be giving us an observatory tour in the future!



President's Report—Continued

This summer, the Centre was approached by the Estate of Attila Danko, offering to donate his 25" Obsession Telescope (and trailer).

The centre already has a large Dobsonian (the Venor) and the question here was how can we manage two of these behemoth's?

The donor of the telescope requested that it be used for outreach, and the Centre's outreach activities are focused primarily on the Queen's Open House monthly events.

The 25" would not have been a good fit there, but we do have a connection with the L&A Dark Sky Viewing Area where Centre members Joe Gilker and Tim Trentadue have an excellent observing program along with Rob Plumley from L&A. The plan is to store the 25" fully assembled at the DSVA in season, and then to securely store it by the L&A in the trailer in the offseason. The donation includes funding for a storage shed at the DSVA.

The Lennox and Addington Dark Sky Viewing Area was conceived by Terence Dickenson in 2011 to promote public awareness and engagement in astronomy. Terry hand-picked the roadside location because it was the most convenient southerly spot in Ontario with both an unimpeded view of the night sky and very low light pollution.

Over time, the L&A Dark Sky Viewing Area has grown massively under the custodianship of Joe, Tim, and Rob with the County of Lennox and Addington providing funding for maintenance and upgrades and publicizing the programs.

I spent time observing at the DSVA in the early days with Terry and recall how it was in the beginning. Since then, the popularity of this site has exploded.

The initial configuration was a cement pad for tripods and telescopes, with a parking lot, a porta potty and a plaque honoring Terry. Build it and they will come.

The pad has since been doubled in size, a wall constructed to block the headlights of cars, a building added to store equipment, solar panels and batteries were installed, as were outlets for power, along with audio-video equipment for presentations.

Over time, word spread about what a wonderful experience a night at the L&A DSVA was.

Observing sessions now attract 200 to 300 attendees per night and it is necessary to book your attendance in advance so that everyone gets parking, and everyone fits on the Terence Dickinson Observation Deck. The Facebook group has over 8,100 followers.

Between May and December, they attract about 1200 people per month mostly from Toronto and parts in between. This is a 2-hour drive for many, and if people stay overnight at a hotel locally it's a win for the local economy.

In 2024 it is estimated that there were as many as 7,000 visitors to the dark sky viewing site for night sky tours.

This is a spectacularly successful volunteer outreach program and we are pleased to have a framework in place to deploy the Attila Danko 25" Obsession to the L&A Dark Sky Viewing Area, to fulfill the missions of both the Estate of Attila Danko, and the RASC Kingston Centre, dedicating this amazing telescope to public outreach. Astounding views of the universe are in store for the public for years to come.

The deployment is anticipated to be in April, 2026.





Is Labour Day the official end of summer? Not for me, nor, I suspect, other retired people. I'll be camping until Thanksgiving, and possible the week after. What I like about this time of year is that the nights are getting longer and cooler, Mosquitoes are much less of a problem, and the summer skies are still accessible but Orion rises around midnight.

However, I'd like to tell you about something I did this past summer.

I'll have to start last Fall, though, at the Portsmouth Tavern when Malcolm Park asked me what it would take to get me back to StarFest. You see, I had been a regular attendee between 1991 and 2004, so it had been 20 years since I last spent time at The River Place. I said that it would take an RV site with three services. He declared that probably the only way he could manage that would be for me to give a talk. Further chats occurred over a few months, and I submitted a topic for my talk: "Nights of Awe and Wonder: A Passion for Astronomy". I submitted a brief précis about how I would try to distill 60 years of astronomy into 50 minutes and whatever committee the NYAA has for these things approved it.

That's a rather grandiose title for a talk, though, and this was StarFest, so there was a certain standard that should be met. I worried about giving a talk there that I had never given before. The last time I spoke there in 1999, it was about how I built a roll-off roof observatory for \$500. However, I'd given that talk already at several RASC Centres around southern Ontario (including Kingston) and the NYAA, so I was well practiced. That would not be the case this time. Fate intervened in my favour, though, when the Hamilton Centre asked me to give the keynote speech at their annual banquet in June.

I spent considerable time putting the talk together a talk. I used a couple of AI to write a couple of Haiku, create some royalty-free ambient music, and create a couple of images. I included images I had taken and others (accreditation was noted). I ran through it at home a few times, made alterations where fit, and tightened it up. I gave it to Hamilton, where it was well received, but I did run out of time.

On the way back to where we were staying in Milton, my wife and I rehashed what had happened. It basically boiled down to: Stop wandering off-topic. Create a script and stick with it. You see, normally I create a slide for a talk and then then just repeat what's on the slide. Well, mostly. I will also add stuff since people can read the slide anyway. That, however, is the danger. When you create a talk with a slide per minute, you have to be very careful with timing, and time management has always been a big issue for me.

So, I stepped back and created a script, not just bullet points. The script was re-done in Google Docs and the Google Slide deck was reworded, sections were removed, music was added and some poetry was written.

I went through it a few times in my office, and got through the talk in 50 minutes. Perfect!

I was scheduled for 3pm on Friday afternoon, right after fellow Kingston RASC Stefan Jackson's workshop on H α Solar Imaging. I did another run-through for my wife to make sure that I had everything under control. I went to the big tent at 2:30, full of nervous energy, because this talk was unlike anything I had done before, and the audience was going to be very knowledgeable.

Starfest is chock-a-block with how-to talks, like the one that Stefan produced but mine was going to be about our passion for astronomy. Would anyone actually show up?

When it was my turn at the lectern, I quickly set up. My windows table had the Google Slide presentation, an Android tablet had my script, and my phone had a stopwatch. A bottle of water was procured, the tent was more than half full so I had a reasonable sized audience and then I was off and running. There was applause and laughter a few times during the talk, so I knew it was going well.

My nemesis struck again, and I wandered off topic. I looked down at my phone and realized that I had forgotten to start the stop-watch app. A quick look at the time and I realized I only had a few minutes left. I tossed out an entire section on hunting for Omega Centauri on Canadian Soil, ran through a bit about Chile, and then wrapped it up.

The applause was long and loud. A couple of people even stood up to clap, and more than a few who ended with moistened eyes.

It seems a shame to do many, many hour of work for only a single event, so I've volunteered to give it again at Fall'n'Stars.

Clear skies to you!
Roger Hill



As a request from a reader I have added the location of objects in hours/min and degrees/min. Seconds are rounded to minutes.

A few notes...

Rasalgethi is a large super giant, very red, while its smaller companion has been described as bluish turquoise or emerald. Due to the variability in size of the larger and the small angular separation, 4.64 seconds, the ability to split them also varies. I have also found that a hazy sky is enough to prevent a good view of the different colours.

The other double star 100 Her/HR6781 is one of those remarkable pairs that match colour and magnitude looking like a pair of tiny headlights in the night.

Levy 6 is the smallest of the 3 GC of Hercules but still bright enough that it is worth trying with binoculars if your sky is dark and it is most likely just a binocular field away from M92.

NGC 6210 is small and bright being 3'x3'

All listed items are found in Cartes du Ciel.

With Stephen Craig's permission, I have included his photos of NGC 6181 and 6207.



Object	Type	RA hour/min		DEC degree/min		Mag
Levy 205/NGC 6106	Spiral galaxy	16	19	7	28	12.2
Levy 236/NGC 6181	Barred galaxy	16	32	19	50	11.9
Levy 19/NGC 6207	Spiral galaxy	16	43	36	50	11.5
Levy 6/NGC 6229	GC	16	47	47	32	9.4
Levy 36/NGC6364	Galaxy, lenticular	17	24	29	23	12.9
Rasalgethi	Double star	17	15	14	23	3.3
100 Her	Double star	18	8	26	6	5.0
NGC6210	PN	16	44	23	48	10.5
M 13	GC	16	42	36	28	5.8
M 92	GC	17	17	43	8	6.52



Any night of the week offers up a broad range of viewing wonders. A Past President of the Kingston Centre, Rick Wagner keeps an eye on the sky each month, sharing some of the best viewing opportunities as well as timings to catch your favourite night sky target at its best.

The Skies in September

- 01 Sep - Aurigid meteor shower peaks - minor shower but has produced rare brief outbursts, best from moonset to dawn
- 04 Sep - Titan's shadow transits Saturn's disk (01:04 to 05:10EDT)
- 07 Sep - Full Moon (14:09EDT)
- 07 Sep - minor planet (640) Brambilla (mag 14.0) occults UCAC4 481-131606 (mag 11.5) for all of SE Ontario, 21:52EDT
- 14 Sep - minor planet (28373) 1999 HL3 (mag 17.8) occults UCAC4 535-022206 (mag 11.8) over Cardinal and Morrisburg, 04:27EDT

- 14 Sep - Last Quarter Moon
- 17 Sep - minor planet (737) Arequipa (mag 14.4) occults UCAC4 508-028835 (mag 11.1) for Centreville and Battersea and southwards, 03:38EDT
- 18 Sep - zodiacal light visible in the east in morning twilight for the next 2 wks
- 19 Sep - Thin crescent Moon very near Venus and Regulus low in the east before sunrise
- 20 Sep - Titan's shadow transits Saturn's disk (00:41 to 04:00EDT)
- 20 Sep - minor planet (43857) Taniinzan (mag 16.5) occults TYC 2246-01584-1 (mag 8.9) for Centreville and Battersea, to Odessa and Gananoque, 03:38EDT
- 21 Sep - Saturn at opposition (opposite the Sun in the sky)
- 21 Sep - New Moon (15:54EDT)
- 22 Sep - Autumnal Equinox - Sun overhead at the equator, day and night both 12hours long
- 23 Sep - Neptune at opposition
- 29 Sep - First Quarter Moon

OW Cloud (28373) 1999 HL3 occults UCAC4 535-022206 on 14 Sep 2025

Prediction

Last Updated: 19 Jul/25, 16:06 UT
 Data Sources: Horizons/GaiaDR3
 Error (path width): 0.028
 Err. Ellipse: 0.0011" x 0.0002"
 Err. Basis: Known errors

Event

From: 08:25:40 UT
 Combined Mag: 11.45
 Mag Drop (V): 6.06
 Shadow Width: 20.6 km
 Solar Elong: 82°

Target Star

Name: UCAC4 535-022206
 Constellation: Orion
 Diameter: 0
 RUWE: 1.00
 Gaia SourceId: 3349741446255481344
 RA [J2000]: 06^h 58^m 56^s.1506
 Dec [J2000]: +16° 54' 05".798

Object

Name: (28373) 1999 HL3
 Diameter: 17.3 ± 1.6 km (Occult)
 Distance: 2.5887 au
 Motion RA: 40.96 "/hr
 Motion Dec: 1.48 "/hr
 Rings: 0

Computed By: OWC
 Orbit Date: 11 Apr 2025 (JPL#65)
 Error in time: 0.1 sec
 Err. Ellipse PA: 78°
 OWC Id: 2685438

To: 08:34:02 UT
 Max Duration: 0.8 sec
 Mag Drop (R): 5.48
 Moon Phase: 51% sunlit
 Moon Elong: 15°

V mag: 11.80
 R mag: 11.46
 B mag: 12.00
 Flags:
 Gaia Flags:
 RA [aprrt]: 06^h 00^m 25^s.6929
 Dec [aprrt]: +16° 54' 18".141

Class: Main-belt Asteroid
 Diameter (augm): 9.21 mas
 Mag: 17.8
 Motion RA: 40.96 "/hr
 Motion Dec: 1.48 "/hr
 Rings: 0

OW Cloud (43857) Taniinzan occults TYC 2246-01584-1 on 20 Sep 2025

Prediction

Last Updated: 03/Aug/25, 16:01 UT
 Data Sources: Horizons/GaiaDR3
 Error (path width): 0.237
 Err. Ellipse: 0.005" x 0.0004"
 Err. Basis: Known errors

Event

From: 08:27:47 UT
 Combined Mag: 7.91
 Mag Drop (V): 7.58
 Shadow Width: 13.9 km
 Solar Elong: 148°

Target Star

Name: TYC 2246-01584-1
 Constellation: Pegasus
 Diameter: 0.80 mas (Gaia)
 RUWE: 1.30
 Gaia SourceId: 188438335952993920
 RA [J2000]: 22^h 57^m 20^s.4438
 Dec [J2000]: +28° 37' 55".815

Object

Name: (43857) Taniinzan
 Diameter: 13.4 ± 1.2 km (Occult)
 Distance: 1.3634 au
 Motion RA: -20.53 "/hr
 Motion Dec: -30.24 "/hr
 Rings: 0

Computed By: OWC
 Orbit Date: 01 Aug 2025 (JPL#49)
 Error in time: 0.5 sec
 Err. Ellipse PA: 77°
 OWC Id: 2712138

To: 08:48:10 UT
 Max Duration: 1.4 sec
 Mag Drop (R): 7.76
 Moon Phase: 2% sunlit
 Moon Elong: 143°

V mag: 8.90
 R mag: 7.91
 B mag: 9.89
 Flags:
 Gaia Flags:
 RA [aprrt]: 22^h 58^m 35^s.7624
 Dec [aprrt]: +28° 46' 20".655

Class: Main-belt Asteroid
 Diameter (augm): 14.35 mas
 Mag: 16.5
 Motion RA: -20.53 "/hr
 Motion Dec: -30.24 "/hr
 Rings: 0

To My Fellow Kingston Centre Members:

I have been on the executive for some years now and this November I will resign from the Board. As many know I've most recently held the office of Treasurer and that is why I am keen to make my resignation known early. This allows time for someone to think about running for the Board of Directors with a view to taking on that office.

Here are a few points about the job:

- The financial year for the Centre is October 1 to September 30. This means that 2024-2025 will be mostly wrapped up before you take over.
- The Centre books are quite straightforward and I have opted for a simple spreadsheet model rather than an accounting software package that contains too many mysterious operations! If you have accounting experience you may choose a different method, it is up to you.
- The Centre Policy Manual will be updated to reflect current practices and deadlines.
- Previous annual reports are all on file.

I will be around to help if there are any questions that come up.

Please consider joining your Centre Board of Directors.

Sincerely,
Susan Gagnon

Volunteer Needed: Auditor.

The fiscal year end for the Centre is September 30. As luck would have it our Auditor will not be around for October when the review of the club books must take place.

While a club our size does not require an official Auditor/Accountant, we must conduct a financial review. This position comes up every year at the AGM so there is no danger of you being tied to it beyond your report for 2024-2025. The Auditor cannot be a member of the board of directors. *

There is a checklist to get you started and from there you can do as deep a dive as you need to ensure that the monies spent by the club are accounted for.

*I wonder if Susan realizes that she will be eligible to be the Auditor? - Ed.

Should you find a part of the process that could be made more transparent, suggestions are welcome. All suggestions and criticisms should be included in your report to the Centre. Your report will be tabled for discussion at the AGM in November. You will be provided the Treasurer's binder (all hard copy documents) and the complete ledger on a flash drive to allow searching and sorting as you like. I will also be available for questions throughout the process. It is not expected that it will take too much of your time but you will have from October 8th to the 31st to complete it. This allows the executive time to review it and get it posted for the membership prior to the AGM.

RASC Membership "Grace Period" Ending

September 15th. Up until this year's Annual meeting, part of the membership renewal process has included a two-month "grace period" for lapsed members before they are deemed 'expired'. This process was implemented to accommodate members who opt to mail a cheque to the National Office for renewal, providing more time for mail service. Because the vast majority of our members now pay online or over the phone via credit card, we have decided to remove the "grace period", effective September 15th, 2025.

You will now have to renew your membership on or before your expiry date to keep your membership continuous. You can check your expiry date by visiting your membership profile and clicking "print temporary card". If you need assistance finding your expiry date, you can reach out to Michelle at mempub@rasc.ca or 416-924-7973 ext 102. Email notices will be sent to you automatically 60 days before expiry, 30 days before expiry, 7 days before expiry, and 1 day before expiry as reminders to renew your membership. Please be sure to check your junk folder if you have not received any renewal notices in the appropriate time-frame.

If you would like to renew your membership after expiry, you can login to secure.rasc.ca using your original membership credentials, and you will be redirected to the payment page. Alternatively, you can reach Michelle at the contact information provided above.

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Skyward for July, 2025



*Of Minerva the telescope, Edward Fitzgerald's translation of **The Rubáiyát of Omar Khayyám of Naishápur**, and Messier 40*

Last month I sent some of you a photograph of Eureka, the 12-inch Dobsonian reflector that I claimed I now use for most of my comet hunting.

That statement, I am afraid, is not entirely true. Since May 18, 1967, the day after I very nearly got expelled from the Royal Astronomical Society of Canada for arguing with Miss Isabel Williamson, its Director of Observational Activities, I have enjoyed and loved this little 6-inch f/4 reflector for more than 58 years. Even though I have not found a comet with it, I have used it to sight many known comets, and I must say that I use it for at least half of my comet hunting. I was using it while I was a student at Acadia University in Nova Scotia, where, in Dr. Roger Lewis's Victorian Literature class, I was introduced to **The Rubáiyát of Omar Khayyám**. Omar was a resident, probably the most famous resident, of Nishapur, a city in northeastern Iran, and there exists a beautiful mausoleum in his memory there. I concentrated on the first stanza only, and it was well worth my trouble, and I add to it the penultimate 100th stanza:

*Wake! For the Sun, who scatter'd into flight
The stars before him from the Field of Night,
Drives Night along with them from Heav'n, and strikes
The Sultans' Turret with a Shaft of Light.*

*Yon rising Moon that looks for us again—
How oft hereafter will she wax and wane;
How oft hereafter will she look for us
Through this same Garden—and for one in vain!*

Interest in science was at a height, especially with the appearance of Darwin's *The Origin of Species* in 1859 when Edward Fitzgerald's translation and reinterpretation of the poem appeared. Academically, this poem attracted most of the members of the Pre-Raphaelite movement, though the English population of the time thoroughly embraced the poem's thought and feeling. Even today, this poem encourages many people to enjoy both the poem and the Sun, Moon, and stars that it embraces.

A few years before I began my time at Acadia, and before my near-expulsion, I was completing my observations of Messier's 109 object catalogue. "It was Messier's mistake," Miss Williamson explained. "When you locate the rest, we credit you with M40."

I saw Messier 40 the last three nights. Messier himself found it in 1764 while searching for a nebula discovered near Megrez, in Ursa Major, by Johannes Hevelius.

Hevelius, who was not using a telescope, noticed a touch of nebulosity. Messier could not confirm this but he did record two faint stars. Today most of us call M40 Messier's mistake, but I disagree with this. He probably understood his friend's naked eye view of the two stars, which even to him could show some nebulosity, and left the pair in his catalogue. Could the pair look nebulous to us when viewed without a telescope, just as groups of stars like the Beehive and Pleiades look nebulous to today's viewers when seen without a telescope?

To find M40, simply locate Megrez and move a little more than one degree to its northeast. There will be 70 Ursa Majoris. Continue another quarter degree to the two stars that form Messier 40. Remember that this is not a double star, but instead two stars at different distances from Earth.

Finally, Messier 40 offers a bonus. Close to the east of the two stars lie two very nice spiral galaxies, NGC 4290 and NGC 4284. You need a very dark sky to catch these, but they are lovely.

So what do Minerva, The Rubáiyát, and Messier 40 have in common? Nothing, you might say. Minerva is a pile of metal and glass loosely held together with glue and pressure. The Fitzgerald translation is a poem. Messier 40 is a mistake.

No. Not at all. Minerva has given me 58 years of passion and pleasure being under the sky, whose rising Moon only adds to the joy. And over centuries, people like Charles Messier and Hevelius shared that same incredible craving for the stars, including the tiny pair of distant suns collectively called Messier 40.



Skyward for August, 2025



The 2025 version of the Adirondack Astronomy Retreat, now in progress, may (or may not) be our last one. It is a chance for star gazers to gather, enjoy the fabulous night sky, and rediscover why we fell in love with the sky in the first place.

We have already had two fabulous nights. Tuesday night, July 22, was a bit hazy but David Cotterrell photographed some apparent haze in the north northeast that turned out to be a faint glow of the aurora borealis. Then visually, I detected a faint greenish glow for some time thereafter. This event reminded me of my first major auroral display. That one happened right here, on 8 July 1966. That was the night that twilight never ended. The twilight glow moved over towards the north, evolved into a bright auroral glow, a rayed arc, and lasted all night with a flaming beautiful light. As weak as Tuesday's glow was, I did see several rays pop out. I did 3.6 hours of comet hunting that night.

As wonderful as Tuesday night was, it is difficult to compare it to Monday night. That might be the best sky, or surely one of the best, that I have ever seen anywhere. Not only did Messier 31, the Andromeda Galaxy, appear visible to the unaided eye, but also Messier 33 in Triangulum, became easier and easier to see as it arose out of the small microclimate cloud that was hovering over nearby Lake Champlain. Later, that cloud covered most of the sky. But when it dissipated later in the night, the Triangulum galaxy was clearly a naked eye object. I completed 3.1 hours of comet searching that night.

I began my search for comets long ago on the night of 17 December 1965. That brief 10-minute search between Pollux and Castor in Gemini did not last long, but it was the start of a lifetime search that continues to this day. I no longer expect to find another new comet, but I enjoy the search itself as much as I ever did.

My comet search, that culminated in the discovery of Periodic Comet Shoemaker-Levy 9 by Gene and Carolyn Shoemaker and me, was clearly the highlight of my career. But it was only the second highlight of my life. Meeting and marrying Wendee was the first, and it will always be.

The week at our 2025 Adirondack Astronomy Retreat is one I shall never forget. The group of people here are by far the smartest bunch I have ever had the privilege of knowing. With the coming of darkness each night, I used Tranquilitatis, a lovely 20 cm. reflector that Mark Zdiarski brought with him. Particularly on Monday night, I used it to spot a cacophony of galaxies in and near the Big Dipper, galaxies I cannot see from my Vail, Arizona home because of the glow from Tucson to my northwest. As attractive as all these galaxies are, their beauty pales before the truly magnificent appearance of Messier 51, the Whirlpool, and perhaps even more so with the advent of Messier 81, that attractive spiral in Ursa Major, and its enigmatic neighbor Messier 82. With these three galaxies, and later the Moon and Venus gently rising over nearby Ferguson Mountain, my night comes to an unforgettable conclusion.



All the planets are visible this month. Mercury and Venus are low in the ENE in morning twilight. Mercury will be lost before the month is out. Jupiter will rise before 2 am and be high in the E by dawn. Saturn will rise in the E at dusk and set at dawn. Mars will be low in the W, setting during evening twilight.

Full Moon will be on the 7th and will be in eclipse for everyone but North and South America. We also miss the partial Solar Eclipse two weeks later. (September 21). Saturn will be close to the Moon on Sept 8. The 14th is the last quarter Moon. Zodiacal Light might be visible in the East during the morning for two weeks. On the 16th Jupiter will be south of the Moon. Capella, Auriga's brightest star, might be visible in the morning sky this week. Regulus, brightest star in Leo, Venus and the Moon will form a triangle in the early morning sky. Fall Equinox is on the 22nd and First Quarter Moon is on the 29th.

Last month, we printed that meteor showers were caused by debris from comets. This statement was called into question as recent discoveries have shown a meteor shower can be caused by an asteroid instead. Changes to equipment and software have led to many discoveries of things that don't fit the old classifications. Discoveries from Asteroid Bennu and P/Comet Encke show a progression from one to the other.

Comets were easy to identify: they were in highly elliptical orbits around the sun and developed two tails as they approached the sun. Those tails were made from the plasma and particles the solar wind always pushed away from the sun. Asteroids were thought to be more like failed planets. We now know those are not necessarily true statements.

In 1993, Periodic Comet Shoemaker-Levy 9 was discovered in March and the repair for the Hubble Telescope's astigmatism in December. When discovered S-L9 had been pulled into 21 pieces, each with some cometary tail. It was fittingly called 'the string of pearls'.

The comet was not in orbit around the sun, though it used to be. It may have been pulled out of the solar orbit in the 1960s by Jupiter and was captured. That chunk of ice and rock got even closer in 1992 and in July of '94 was going to crash into Jupiter!

Questions about the density of comets were topics of conversation. Now we know they are not like a sandbox and more like an icy slush ball kept in the freezer. The results of the impact on Jupiter was visible for months.

Fortunately, the repair of HST went better than hoped allowing everyone to watch the impacts happen. Learning to create a 'fix' for that astigmatism has allowed every telescope to counter for sky conditions if they want. While a backyard telescope has always been able to do 'citizen science', the choice is much larger now. More people are seeing fainter objects and it turns out, not all are easily classified. Comets and Asteroids were thought to be very different, but, if you were to move the asteroid to an elliptical orbit, would it become a comet? And what about periodic comets that are now covered in rock and soot, no icy gas near the surface to sublimate and create a tail. Is it still a comet?

Earlier this summer, the third interstellar object discovered by humans is passing through. Now known as 3I/Atlas (Asteroid Terrestrial-impact Last Alert System) it does have a bit of a coma, like a comet, but on a hyperbolic orbit. The first object found (2017 now called Oumuamua) looked like a cigar shaped asteroid. It was too long to be from our solar system. It had Arthur C Clarke fans intrigued. The second object was discovered 2019 and first identified as a comet 2I/Borisov. None of these three crossed Earth's orbit, so no meteor shower from them. But what about other objects. The Geminid shower is spawned by the Asteroid Phaethon which has many comet like features.

New telescopes with computer interfaces are capable of creating some really interesting images and information. If you are in the market for a 'scope, check them out. Maybe you can get an Asteroid named for you some day.

When I was a child, there were nine planets even though I couldn't see some of them. Asteroids are smaller than planets and most in orbit in the asteroid belt. Comets were thought to be from beyond our system. Now we think most comets come from the Oort Cloud and Kuiper Belt. Asteroids mostly stay in their belt, too. But there are blended families.



This image of the giant planet Jupiter, by NASA's Hubble Space Telescope, reveals the impact sites of fragments "D" and "G" from Comet Shoemaker-Levy 9. The large feature was created by the impact of fragment "G" on July 18, 1994 at 3:28 a.m. EDT. It entered Jupiter's atmosphere from the south at a 45-degree angle, and the resulting ejecta appears to have been thrown back along that direction. The smaller feature to the left of the fragment "G" impact site was created on July 17, 1994, at 7:45 a.m. EDT by the impact of fragment "D".

Wednesday, June 11, 2025

Minutes of the RASC-KC Regular Monthly Meeting

The meeting began at 7:10 pm. Malcolm Park welcomed Kingston Centre members and guests with 23 in person and 2 on Zoom. Special welcome to our newest member, Nirmay Shah.

Malcolm shared his image of the June 11 Full Moon rising over Wolfe Island.

The RASC Kingston Centre acknowledges that we are on the traditional homeland of the Anishinaabe, Haudenosaunee, and the Huron-Wendat, and we thank these nations for their care and stewardship over these lands.

Other than meeting nights, we host Wednesday night Zoom Socials, with an invitation posted to the Centre's email list.

Next Astrophotography tutorial session via Zoom, June 12, will focus on Planetary Imaging with guest speaker Ben Law.

Our monthly newsletter, Regulus, can be found on the RASC Kingston Centre website <https://kingston.rasc.ca/>

Speaker: Jenna Hinds, Executive Director, RASC, on the 'Modern History of the RASC. Jenna highlighted what has occurred at National over the past seven years, a review of their financial struggles, and how Jenna sees the Society moving forward in the future. Highlights include staff introductions, role and structure of the National office, financial lessons learned and a focus on reintroducing National programming in a financially sustainable way.

AGM June 22. All members encouraged to attend, sign up on National website.

Social media, membership coordinators, and Stellarium training sessions will be available this summer.

NOVA program will be available to centres in the fall.

Rick Wagner: What's Up in the Sky

Local Events

14 Jun – Queen's Observatory Open House

BAA Events

04 Jul – RAZoom

Lennox and Addington Dark Sky Viewing Area

Triple Feature: 14 Jun (registration required)

Astrophotographers Assemble: 21 Jun

Laser-guided Tour: 27 & 28 Jun (registration required)

Up Close with the Moon: 05 Jul (registration required)

North Frontenac Astronomy Park

28, 29 Jun – Summer Constellations & Messiers

28, 29 Jun – Summer Constellations & Messiers

Sky Events – June

11 Jun – Full Moon (03:44EDT)

16 Jun – Titan's shadow starts to transit Saturn's disk shortly before sunrise

18 Jun – Last Quarter Moon

18 Jun – Mars just $\frac{3}{4}$ degrees N of Regulus low in the west after sunset

20 Jun – Summer Solstice (22:42EDT) – longest day of the year and astronomical summer begins in northern hemisphere

24 Jun – Jupiter in conjunction. With the Sun

25 Jun – New Moon (06:32EDT)

25 Jun – Extremely thin crescent Moon (<15hr old)

26 Jun – Thin crescent Moon 5° right of Mercury (mag 0.2)

29 Jun – Crescent Moon passes just south of Mars during the evening

Sky Events – July

02 Jul – First Quarter Moon

03 Jul – Earth at aphelion (152087376km)

04 Jul – Venus (mag -4.1) 2.5° south of Uranus (mag 5.8)

04 Jul – Mercury (mag 0.4) at GEE

T CrB

- Transits around midnight

- Still faint

Major Planets

Mercury (mag -0.1) very low in NW after sunset

Mars (mag 0.7) low in W, sets about midnight

Saturn (mag 1.0) SE

Neptune (mag 7.8) SE

Venus (mag -4.5)

Uranus (mag 5.8)

All low in ESE to ENE at nautical twilight

Jupiter in conjunction

Astrospheric weather app: Malcolm walked us through a tutorial using the phone app and desk top version beginning at 1:29:00 on the YouTube recording. Membership is a Kingston Centre benefit.

The Centre is looking for an Auditor for the financial review in the fall. Details in Regulus. Susan highlighted Treasurer duties as she is stepping down in November.

Our website is Kingston.rasc.ca. Facebook Group @RASC Kingston Centre Group. YouTube Channel @RASC Kingston Centre. Join us at www.secure.rasc.ca/membership. July and August meeting dates are replaced by picnics at Lake Ontario Park. Go-no go announced a few days beforehand and tentatively July 9 and August 13.

Next meeting, in person, at Queen's on September 10th. Malcolm thanked all for attending and the meeting ended at 8:49 pm.

Elena Zanetti, Secretary.

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.

Board of Directors & Officers for 2024-2025

Directors:

Susan Gagnon, Kim Hay, Roger Hill, John Hurley, Kevin Kell, Malcolm Park, Elena Zanetti

Officers:

President: Malcolm Park

Vice President: Kim Hay

Secretary: Elena Zanetti

Treasurer: Susan Gagnon

Regulus Editor: Roger Hill

Nation Council Representative: John Hurley

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. Our 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

Front cover image

This image of the Moon was taken by Tim Trentadue. It's a nice image of Plato, and originally published on the Kingston Centre's FaceBook page..