

# Regulus

Newsletter of the RASC Kingston Centre

Vol. 50, No. 12

December 2023



Follow the Europa Clipper

On the Horizon ....

Holiday season! Enjoy the festivities and have a safe and wonderful new year!

Regular Monthly Meetings (online)

10 January 2024  
14 February 2024

Centre meetings occur on the second Wednesday of every month at 7pm EST from September through to June.

For more information visit us online  
<https://kingston.rasc.ca>

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I would like to begin by thanking the membership for electing me as President of the RASC Kingston Centre at our November Annual General Meeting (AGM). It is an honour to serve in this capacity. And I have some big shoes to fill. Kim Hay, our outgoing President, did a wonderful job of keeping members informed, chairing meetings with interesting speakers, organizing activities, and of course all while she guided the centre through unprecedented, challenging times. Forced by circumstances out of anyone's control to find a way to keep things going, under Kim's leadership the centre evolved and came out even stronger.

Adopting new technology is never easy. But we now have the ability to broadcast our meetings to the outside world, and we hold a regular Zoom social meeting on Wednesday's that has fostered a strong feeling of community and for people that are a long distance away, it's a way to stay connected. On behalf of the Centre, I would like to thank Kim for her countless hours of time and dedication to the Kingston Centre, and not just as President. She continues as VP and Librarian and is always engaged one way or another in activities that support the Centre.

So, a little about me. I am a past-president of the North York Astronomical Association in Toronto. During that time, I was also the team leader of Starfest, Canada's largest annual Star party and amateur astronomy conference. I joined the RASC Kingston Centre in 2014 after I retired and moved east. I live in South Frontenac just north of Kingston with a SkyShed Pod in my backyard. My passion for astronomy began as some have already heard with the Shoemaker-Levy 9 impacts on Jupiter in 1994. Some of our members had already been in amateur astronomy for decades by that time.

Mostly, I do astrophotography, but I have recently been interested in using my equipment for more than just pretty pictures. Asteroid and comet hunting are beckoning, as is the study of variable stars. On that note, the RASC has many visual observing programs to choose from for people of varying degrees of experience and interests. There are presently nine programs on offer that are a great way to learn about the night sky and hobby of amateur astronomy. Upon completion one can apply for a certificate, and in some cases a pin is also awarded. For details go to <https://www.rasc.ca/certificate-programs>

### *Astro Imaging*

Like the visual programs, the imaging programs offer certificates and the opportunity to learn more about the night sky and to learn new skills. Upon completion of the requirements, certificate winners have their images posted to an RASC image gallery. Details can be found here <https://www.rasc.ca/astro-imaging-certificate>

### *Holiday Dinner*

Our next event is on Wednesday December 13th at 5pm and is a holiday dinner get together at the Mandarin Restaurant on Bath Rd, Kingston, which replaces the December Monthly Meeting. As in previous years, feel free to bring a gift. We will hold a draw and you will have a chance to choose a gift from the table if you have brought one.

*Optional: (If anyone wishes to join the supper at the last minute, please feel free to contact the Mandarin directly the reservation is under Michael Bird.)* I hope to see you there, and if not then at our regular members Wednesday night Socials via ZOOM.

### *In to the New Year - 2024*

For the months of January and February, we are returning to Zoom only for our monthly meetings. This is temporary and is only to ensure that nobody has to risk driving in nasty winter weather. In person meetings resume in March.



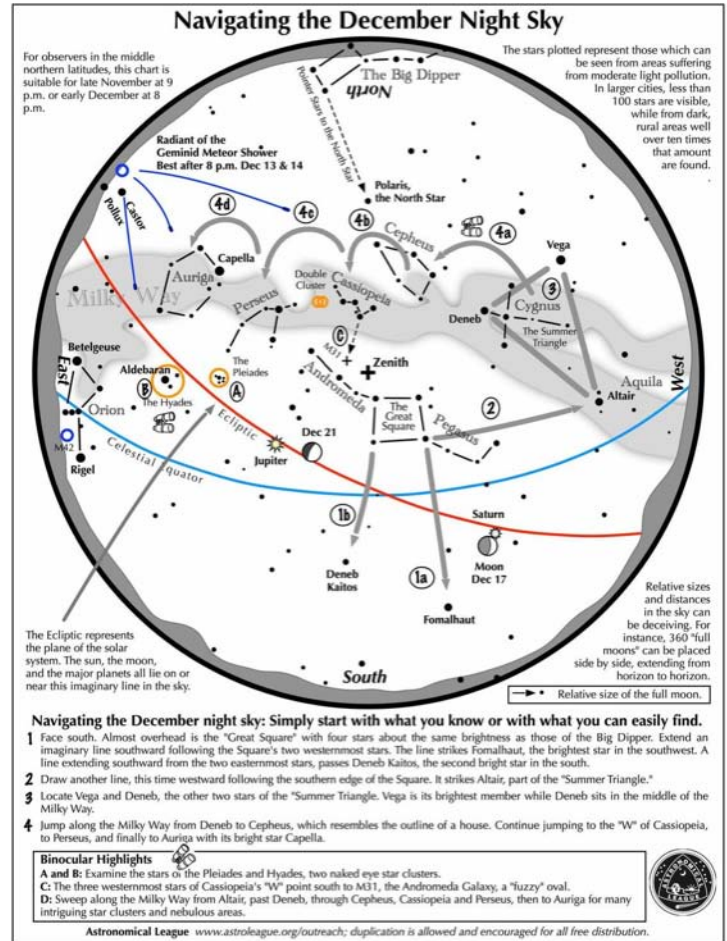
On the cover: This artist concept shows the NASA/JPL exploratory satellite *Europa Clipper* sailing over the icy surfaces of the Jovian Moon for which it was named. Launching in October 2024, the spacecraft will reach its destination in April 2030. Its main objectives are to understand the nature of the icy shell and liquid oceans beneath the surface, where if the conditions are right life could exist. See the editor's eyepiece about how to send your name along on this mission!



Welcome to the December issue of Regulus! The holiday season has arrived, though arguably the lack of snow and mild temperatures hardly makes it feel like winter. Perhaps we shouldn't be surprised - the weather was not very cooperative for amateur astronomers much of the year - mostly cloudy and even when not, a constant haze from the

summer's wildfires. Such conditions can make it challenging for our hobby - I don't know about you but I look forward to better skies going into 2024.

With less time at the eyepiece these past few months, I've had some spare time to wade through the growing pile of astronomy readings and emails for items of interest. One thing that did catch my eye was an e-newsletter from the Planetary Society (<https://www.planetary.org>) that included a link to NASA's Europa Clipper website (<https://europa.nasa.gov>). On that site there was a link to activities (<https://europa.nasa.gov/participate/ways-to-participate/>) that included info on how to add your name to the list that will accompany Poet Ada Limon's 'message in a bottle' going with the mission. I've added my name to several spacecraft nominal rolls over the years, so this one attracted my attention. Europa Clipper is scheduled to launch in October 2024 (just one month before the Artemis II mission) and is scheduled to arrive at Jupiter in April 2030. While it's focus is on just one of the four Galilean moons, there is no doubt that the mission will return another load of amazing images and data about Jupiter and its major satellites. This said, Europa's position well inside Jupiter's magnetic field has presented some challenges for the spacecraft in that it will need to protect itself against the considerable radiation present - much of the onboard electronics will be encased in a titanium-aluminum vault to slow their degradation. This mission if successful will greatly broaden our understanding of the Jovian system while beginning to chip away at the most exciting question of all - is there potential for life below Europa's icy surface?



The other thing in the e-pile that really caught my eye are these brilliantly put together observation 'one-pagers' courtesy of the Astronomical League (AL). I pulled the one shown above from their Facebook page, but you can also find them on their website in a few easily downloadable formats (<https://www.astroleague.org/navigating-the-night-sky-guides/>). These handy sheets are a great companion to observing program, or even just a casual spur of the moment evening on the back deck. It would be great to see the RASC produce something similar, as their simple yet detailed format appeals to a broad audience regardless of interest or experience. I'll be adding these to my observing binder.

As we head towards a new year, please take a moment to reflect on the year past as well as the year to come. I hope this issue finds you healthy and happy, and remember to take some time over the holiday period to slow down, go outside, and look up at the wonder that is our universe. Happy holidays everyone, and keep looking up!



## Eclipses

On the fourteenth of October 2023, I witnessed my 99<sup>th</sup> eclipse. This tally includes everything from barely noticeable penumbral eclipses of the Moon, where one can occasionally distinguish a slight shading of one side of the Moon as it wanders

past the Earth's outer shadow, to the dramatic and life-affirming total eclipses of the Sun.

The October eclipse was an annular eclipse or "ring" eclipse. The annular phase occurs during which the entire Moon covers the Sun, but because the Moon is near its apogee, or farthest point from the Earth in its orbit, then the Moon is surrounded by a ring of sunlight. I was all set to join the group heading to southern Texas to see the annular eclipse, but last month I was invited to be the keynote speaker at the Homecoming festival at the State University

of New York at Plattsburgh. This invitation meant so much to me that I was not about to pass it up. So, I took a big chance, and it paid off.

The night of my lecture was clear and starry. I began the lecture with my own definition of what a university can be. The world is as it is; we can try but, in the end, it is difficult if not impossible to change it. A university, however, at its best represents the world as it can be. For me, this represents the ideal of what a university can accomplish. The case of SUNY Plattsburgh is a specific example of that possibility. The not-too-large student population, understandable relationships among students and faculty, careful and interesting course offerings, and even the Plattsburgh Cardinals sporting program, all help to promote this goal.

But this University offers one thing more. About 40 miles to the south, within the ancient Adirondack mountains, lies their rural campsite called Twin Valleys. As a youngster I attended the Adirondack Science Camp there in what were three of the happiest summers of my life. And for the past 20 years there has been the Adirondack Astronomy Retreat at this magnificent place.

On the eve of the eclipse my friend Ed Guenther and I led a small group of people to observe at our Adirondack Astronomy Retreat site, during which time I did a little comet hunting. The following morning the sky was cloudy but there were plenty of breaks in the clouds, so we got a magnificent view of the partial eclipse. We were excited; the crowd was excited, and we thoroughly enjoyed the partial eclipse that lasted about two hours. During this excitement, the solar system continued its inexorable motions, as the Earth, the Moon, and the planets slowly wended their way through space and time.



*David Levy's 'Cupid' set up and ready to go at SUNY, Plattsburgh, New York.*

# Centre News and Updates



Stop the press! Got news to share? Send your centre news, updates, pics, sketches, notes, and links to the Regulus editor!

## Centre Elections

The November AGM witnessed the election of a new Centre President and Vice

President as Kim Hay left the President's chair to Malcolm Park. Kim didn't get away cleanly however! She's the new Centre Vice President and will continue to lend her vast knowledge and experience to the club's board and membership in the coming year. Susan Gagnon was re-elected as club Treasurer, and likewise remains a critical decision maker in Centre business. Congrats to all who took part in the AGM and to those who were (re)elected to their positions for another term.

## RASC Handbook Donations

At this time of year I'd like to remind those of you who do not use the Observers Handbook and have no interest in keeping a perfect collection, that you can donate it to the Centre. The Centre will issue a tax receipt for a gift in kind donation worth \$30, a value based on the price from National Office. These books are great additions to outreach events and when available, have been added to class sets of materials awarded to schools of students who win the Centre's Leo Enright Prize in Astronomy.

## 2023 RASC Fellowship Award

As a follow on to our announcement in the July issue of Regulus, here is the full citation for David Levy's award:

*David Levy is noted on the RASC website as "Possibly the RASC's most famous member and most active observer. He has been an ambassador for astronomy both amateur and professional throughout his many years in the discipline. David received the Chant Medal in 1980 and the Simon Newcomb Award in 2002." Levy received the Chant Medal in 1980, the year he was the AAVSO's most prolific observer with over 10,000 estimates made in one year. He is best known as co-discoverer of Comet Shoemaker-Levy, but amongst the worldwide observing community he is known for his long-term and extraordinary efforts in comet hunting. As with Charles Messier, Levy catalogued the many unique and interesting non-comets and created his Deep-Sky Gems list, first published in the RASC Observer's Handbook in 2008.*

*David Levy studied physics at McGill University and geology at Acadia University and switched to English Literature at Queen's University where he received his M.A. in 1979. This combined talent in astronomy and literature has resulted in a broad portfolio of books encompassing general astronomy, observing, comets, advanced observing techniques and astronomy's place in literature. His books have been variably aimed for beginners, observers, historians, and children. They have been well received.*

*For his lifetime service to the astronomical community, whose roots remain in the RASC, the Society is honoured to bestow a Fellowship Award upon David Levy.*

## Minor Planet Honour - Kevin Kell

It was a tremendous pleasure to see dedicated Centre member Kevin Kell (joined 1990) recognized this fall by the International Astronomical Union (IAU) with an official minor planet designation. Congratulations and well deserved!

**(20021) Kevinkell = 1991 VM6 = 1999 SP20  
Discovered at La Silla on 1991-11-06 by E. W. Elst.**

Kevin Kell (b. 1963) is a Canadian amateur astronomer who has served RASC Kingston Centre as President, Secretary, Treasurer, Equipment Loan Coordinator and editor of Regulus, the club's newsletter. The club awarded him the A. Vibert Douglas Award, he won the RASC Service Award, and also contributes to the AAVSO and the British Astronomical Association. [Ref: WGSBN Bull. 3, #15, 7]

object	orbit epoch	mean anom	arg of peri	ascend node	inclination	eccentricity	semi-maj axis	period (yrs)
(20021) Kevinkell	2023-09-13.0	63.84798	102.06331	89.35574	15.70899	0.0692749	2.6145157	4.23

**IAU** The International Astronomical Union  
**Minor Planet Center**

OBSERVERS	DATA	NEW	CONTACT
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The Minor Planet Center (MPC) is the single worldwide location for receipt and distribution of positional measurements of minor planets, comets and outer irregular natural satellites of the major planets. The MPC is responsible for the identification, designation and orbit computation for all of these objects. This involves maintaining the master files of observations and orbits, keeping track of the discoverer of each object, and announcing discoveries to the rest of the world via electronic circulars and an extensive website. The MPC operates at the Smithsonian Astrophysical Observatory, under the auspices of Division F of the International Astronomical Union (IAU).

All of the MPC's operating funds come from a NASA's Near-Earth Object Observations program grant. Much of the computer equipment that the MPC uses was provided by the Tamkin Foundation.



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.

01 Dec – Callisto (mag 5.9) visible off Jupiter’s south pole (01:30EST). Jupiter’s Galilean moons generally go behind or in front of Jupiter’s disk but when Jupiter’s axis is pointed towards us Callisto is far enough from Jupiter to pass above or below the disk.

01-03 Dec – possible meteor shower – Andromedids from a passage of comet 3D/Biela in year 1649; possibly up to 200 meteors/hour. Predicted peak is 19:00EST on 02 Dec but watch the night before and the night after in case the timing is off.

04 Dec – Mercury greatest elongation east, low in the southwest shortly after sunset.

05 Dec – Last Quarter Moon

12 Dec – New Moon 18:32

14 Dec – Geminid meteor shower peaks, ~120 meteors/hour, best before dawn

18 Dec - minor planet 37 Fides (mag 9.7) at opposition.

19 Dec – First Quarter Moon

21 Dec – Winter Solstice 22:27EST

21 Dec – minor planet 4 Vesta (mag 6.4) at opposition

22 Dec – Ursid meteor shower peaks 23:00EST; minor shower of 5-10 meteors/hour; best from moonset to dawn today or Dec 23. While the shower lasts for about a week the peak is only about 12 hours long.

22 Dec – minor planet 9 Metis (mag 8.4) at opposition

25 Dec – Callisto (mag 6.2) visible off Jupiter’s north pole (23:30EST)

26 Dec – Full Moon 19:33EST

28 Dec – minor planet 5 Astraea (mag 9.3) at opposition

30 Dec - 2 moon shadows on Jupiter, 17:10-18:52EST

## Major Planets

Mercury (mag -0.2) will be visible very low in the SW just after sunset for a week or so around the 9th.

Saturn (mag 0.9) transits low in the south during evening

twilight and sets mid evening.

Neptune (mag 7.9) transits just after the end of evening twilight and sets about midnight.

Jupiter (mag -2.7) is visible most night transiting high in the south in the early evening.

Uranus (mag 5.6) is visible almost all-night transiting high in the south about 10PM and sets before morning twilight.

Venus is in Libra at mag -4.1, rises in a dark sky and is low in the SE at the start of morning twilight.

Mars is too close to the Sun to be seen.

## In the News



In your mailbox! The December issue of the Journal of the RASC on its way to members this month. For more info see: <https://www.rasc.ca/jrasc-dec-2023>

Meeting started at 7:01 p.m.

Kim Hay, our President welcomed all.

Queen's University is situated on the territory of the Haudenosaunee and Anishinabek. We want to acknowledge that we are stewards of this land and respect the peoples and land we are on. The Agenda for the Annual 2022 meeting was presented.

- For Motions and Elections only paid-up members of the RASC Kingston Centre will be able to vote. A show of hands in the video or participation windows will be accepted.
- Approval of Agenda. Motion 20231108 – 1 | Moved by John Hurley | Seconded by Rick Wagner | Motion carried.
- Approval of Annual Meeting minutes November 9, 2022. Motion 20231108 - 2 | Moved by Susan Gagnon | Seconded by Roger Hill | Motion Carried.
- Annual Report of Secretary
- Motion 20231108 – 3 | Moved by Susan Gagnon | Seconded by Peggy Hurley | Motion carried. This report will be sent to National Office for the Annual Report 2023.
- Report of Treasurer & Financials, Auditors Report – Susan Gagnon
- Highlights were presented by Susan (report sent in October Regulus newsletter and on screen). Michael Birds' auditor's report (on screen) was shared. Motion 20231108 – 4 | Moved by Susan Gagnon | Seconded by John Hurley to accept the financials as presented. Motion Carried. Michael Birds' auditor's report (on screen) was shared. Motion 20231108 – 5 to approve Auditor's Report | Moved by Susan Gagnon | Seconded by Kevin Kell. Motion Carried.
- All other reports are located on our RASC KC website, you must be logged in as a member to view them.
- Kingston Centre elections. Nominees must be a member in good standing and be at least 18 years

old.

President: open

Vice President: open

Treasurer: Susan Gagnon is willing to stand

Secretary: Elena Zanetti

Newsletter Editor: Andrew Godefroy

National Council Rep: John Hurley

Librarian: Kim Hay

Auditor for 2023-2024: Michael Bird is willing to stand.

Nominations from the floor were requested for Treasurer. None came forward. Susan Gagnon has accepted another 2-year term. Susan Gagnon nominated Malcolm Park for Vice President. Accepted. Kevin Kell nominated Malcolm Park for President. Malcolm resigned from his position as Vice President and accepted the Presidents position and confirmed. Malcolm Park nominated Kim Hay as Vice President. Accepted and confirmed.

Rick Wagner nominated Michael Bird as Auditor.

- Auditor for 2023
- Motion 20231108 – 6 | Moved by Rick Wagner | Seconded by Roger Hill | Michael Bird will audit the books for 2023-2024. Motion Carried.
- Our RASC Kingston Centre Board is:  
Malcolm Park, President  
Kim Hay, Vice President  
Susan Gagnon, Treasurer  
Elena Zanetti, Secretary  
Rick Wagner, Past President  
Andrew Godefroy, Editor  
Kevin Kell, Equipment Co-ordinator  
Kim Hay, Librarian  
John Hurley, NCREP  
Walter MacDonald and Kevin Kell, Web Team  
Michael Bird, Auditor
- Questions? Roger Hill asked how our membership numbers have fared over the years. We are up with our membership currently at 72. Historic membership numbers may be found on our website in the Member's section.
- AGM and elections meeting adjournment with thanks at 7:19 p.m.

*The club met at Ellis Hall, Room 226, Queen's University and online via Zoom.*

The meeting started at 7:00 p.m. with The meeting started at 7:19 p.m. with 12 people onsite and 21 on Zoom (23 pre-registered). Kim Hay, our President, welcomed Kingston Centre members and guests. This meeting immediately followed our AGM.

David Levy Read Poetry: Shakespeare has over 200 references in his works to the night sky and David read from Sonnet XIV. On October 19th, David donated his telescope, Miranda, a 16" f/5 Newtonian reflector, to the RASC Telescope Museum. Of the many comets David has found, 8 were with this telescope.

Announcements by Kim Hay: Nathalie Ouellette, former Queen's University Observatory Coordinator and currently Webb Outreach Scientist at U of Montreal has been named one of the 100 most influential women in Canadian in 2023 by the Women's Executive Network. Our Wednesday night Social Zoom is announced through our Centre chat list, email us at [Kingston@rasc.ca](mailto:Kingston@rasc.ca) to join. Our regular meeting night, December 13<sup>th</sup>, will instead have our Christmas Dinner at the Mandarin, 5 pm.

John Hurley: National Council update. Nov 5 most recent mtg. They are keeping a close eye on finances and exploring ways to balance the budget by next year. Volunteers for National committees always needed. Speak to John for more information. Summer Fun by Susan Gagnon: Susan shared a slide-show of changes made to her backyard observatory. The 16 year old building now has new roof rails and wheels, a new pier and a new coat of paint!

Bruce Elliott shared images of the partial eclipse in October, his from outside Ellis Hall, a few from his daughter in Aurora and a few from Kim Hay and Kevin Kell, who also volunteered at Queen's that day. Bruce continues to be involved in Science Rendezvous '24 planning.

Rick Wagner presents the Sky This Month – November 2023

## *Local Events*

09 Nov – Queen's Physics – “Cosmic Probes of the Dark

Sector” 11:30 CHE 117

10 Nov – Queen's Physics – “Quest to Measure the Neutrino Mass” 13:30 STI A

BAA Events

22 Nov – Historical Section Webinar – Australian 1857 & 1871 Eclipses

24 Nov – Solar Section Mtg

AAVSO Webinars

02 Dec – How-to Webinar – TBA

Sky Events – November

09 Nov – Moon rises – 22° from Venus (0251EST)

12 Nov – North Taurid meteor shower peaks. Watch for fireballs.

13 Nov – New Moon (04:27EST)

13 Nov – Uranus at opposition (mag 5.6)

18 Nov – Leonid meteor shower peaks

20 Nov – First Quarter Moon

27 Nov – Full Moon (04:16EST)

Sky Events – December

01-03 Dec – possible meteor shower – Andromedids

04 Dec - Mercury GEE

05 Dec – Last Quarter Moon

12 Dec – New Moon 18:32

14 Dec – Geminids meteor shower peaks

19 Dec – First Quarter Moon

21 Dec – Winter Solstice 22:27EST

22 Dec – Ursid meteor shower peaks

22 Dec – 9 Metis opposition (mag 8.4)

26 Dec – Full Moon 19:33EST

28 Dec – 5 Astraea opposition (mag 9.3)

## Major Planets

Mars in conjunction with the Sun. Mercury (mag -0.4) too close to the Sun. Saturn (mag 0.8) transits in twilight and sets before midnight. Neptune (mag 7.9) transits early evening and sets soon after midnight. Jupiter (mag -2.9) up all night, transits ~1 hr before midnight. Uranus (mag 5.6) follows Jupiter by 12° and transits at midnight. Venus (mag -4.4) rises about 3AM, well up in SE by dawn

## Small Bodies

18 Dec – 37 Fides opposition (mag 9.7)

18 Dec – 704 Interamnia opposition (mag 9.9)

21 Dec – 4 Vesta opposition (mag 9.8)

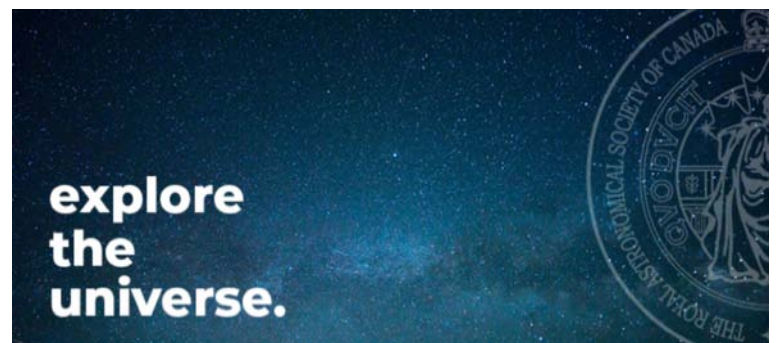
## Member Observing Reports

Malcolm Park has been submitting asteroid observations and working on a 4-panel mosaic. Eric Briggs, along with Brenda, observed Starlink satellites one evening. Bruce Elliott has been comparing moon observations with his son in Vancouver. Bruce Kosugi, in northern BC, had green northern lights the night before. Keith Neumark has been

solar viewing a couple of times and shared images of the eclipse in white light and H-alpha. Peter Jedicke attended the International Space Station with a virtual reality helmet at the Montreal Science Centre. RoseMarie Burke has been observing the moon and stars, took images of a sun dog a few days ago. Kim Hay was observing Venus and the Moon and getting used to the time change. Solar observing during the cloudless days. Laurie Graham was on the Ellis Hall roof imaging the solar eclipse. Saturn through clouds was still a good experience at the Queen's Observatory open house. Steve Craig had seven good nights of imaging which included 11 galaxies and 4 nebulas. Donna commented on the skunk under Steve's observatory. Roger Hill has a Celestron reducer/corrector for sale. Jeannette Wagner observed the partial solar eclipse. Rick Wagner also observed the eclipse and working on equipment issues. Peggy & John Hurley enjoyed solar observing, the partial eclipse, and the garage is being built and will house the telescope next year.

## Announcements by Kim Hay

Our Christmas dinner will be at the Mandarin, December 13th. Every Wednesday (except 2<sup>nd</sup> Wed meeting night) we have the members Social Zoom Time – to join, let us know at [kingston@rasc.ca](mailto:kingston@rasc.ca) On social media we are Website at [www.Kingston.rasc.ca](http://www.Kingston.rasc.ca). Facebook at RASC Kingston.Centre Group. YouTube at RASC Kingston Centre, tonight's and past meetings located here. Kim thanked all for attending and the meeting ended at 8:39 p.m.





**Pegasus** is a favourite constellation for me this time of year, as one of my winter variables is RR Peg.

This constellation is very large and appears early in the evening to the south. Its boundaries are not as obvious as they might be. Historical illustrations show it as a flying horse, but flying upside down. What might be assumed to be its tail is actually the constellation Andromeda. The

stars of Pegasus are not terrifically bright or numerous, but the Great Square of Pegasus as it is referred to, stretching over so much of the sky (38°), is helpful in locating several other faint nearby constellations.

RASC observing list objects include...

## Pegasus

Messier: M15

Finest NGC: 7331

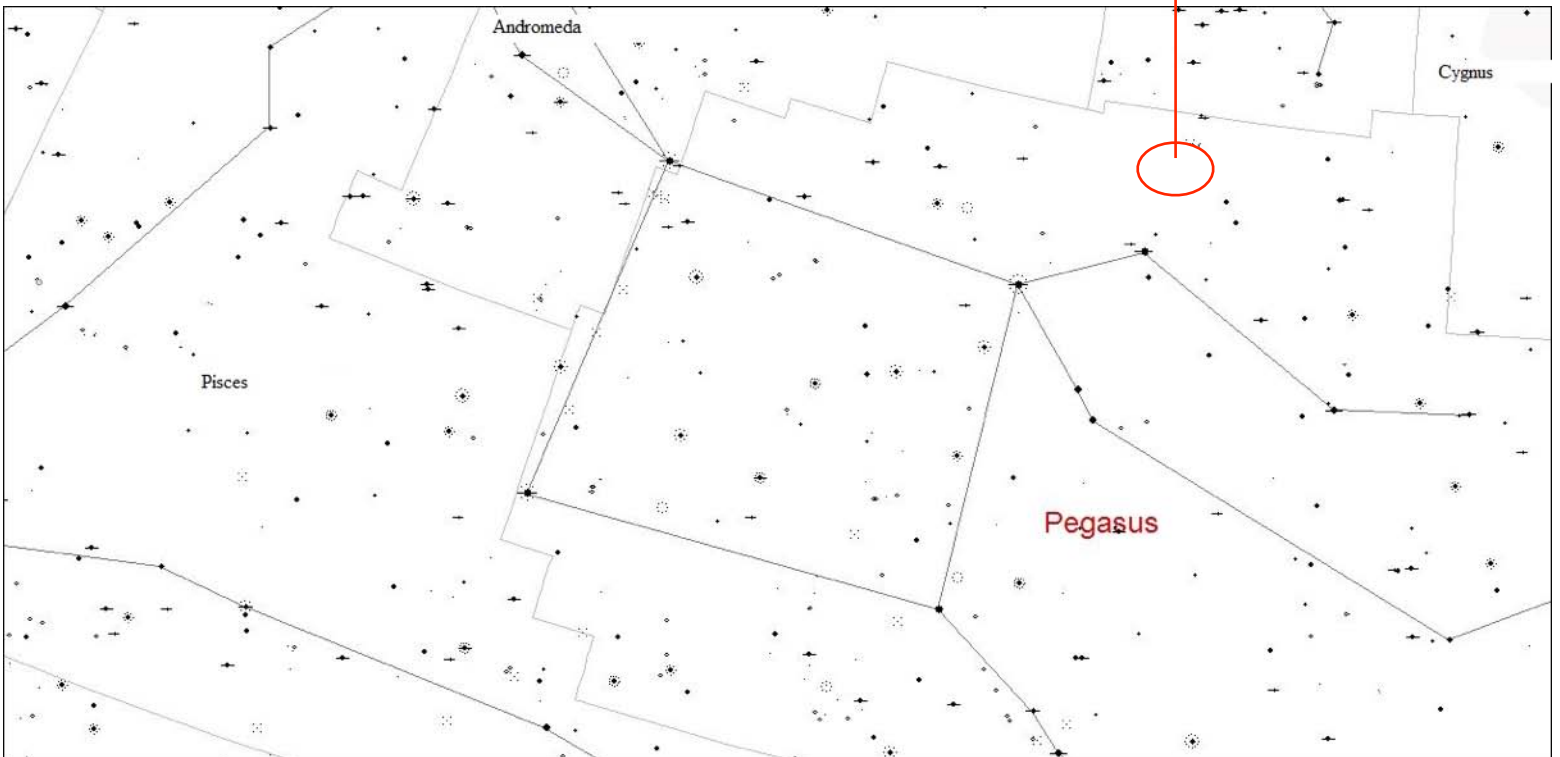
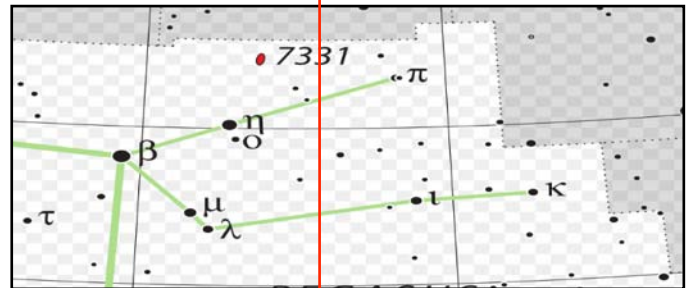
Deep Sky Challenge: Jones 1, NGC 7317-20

Deep Sky Gems: NGC: 7217, 7457, 7664, 7753, 7814

ETU: Markab

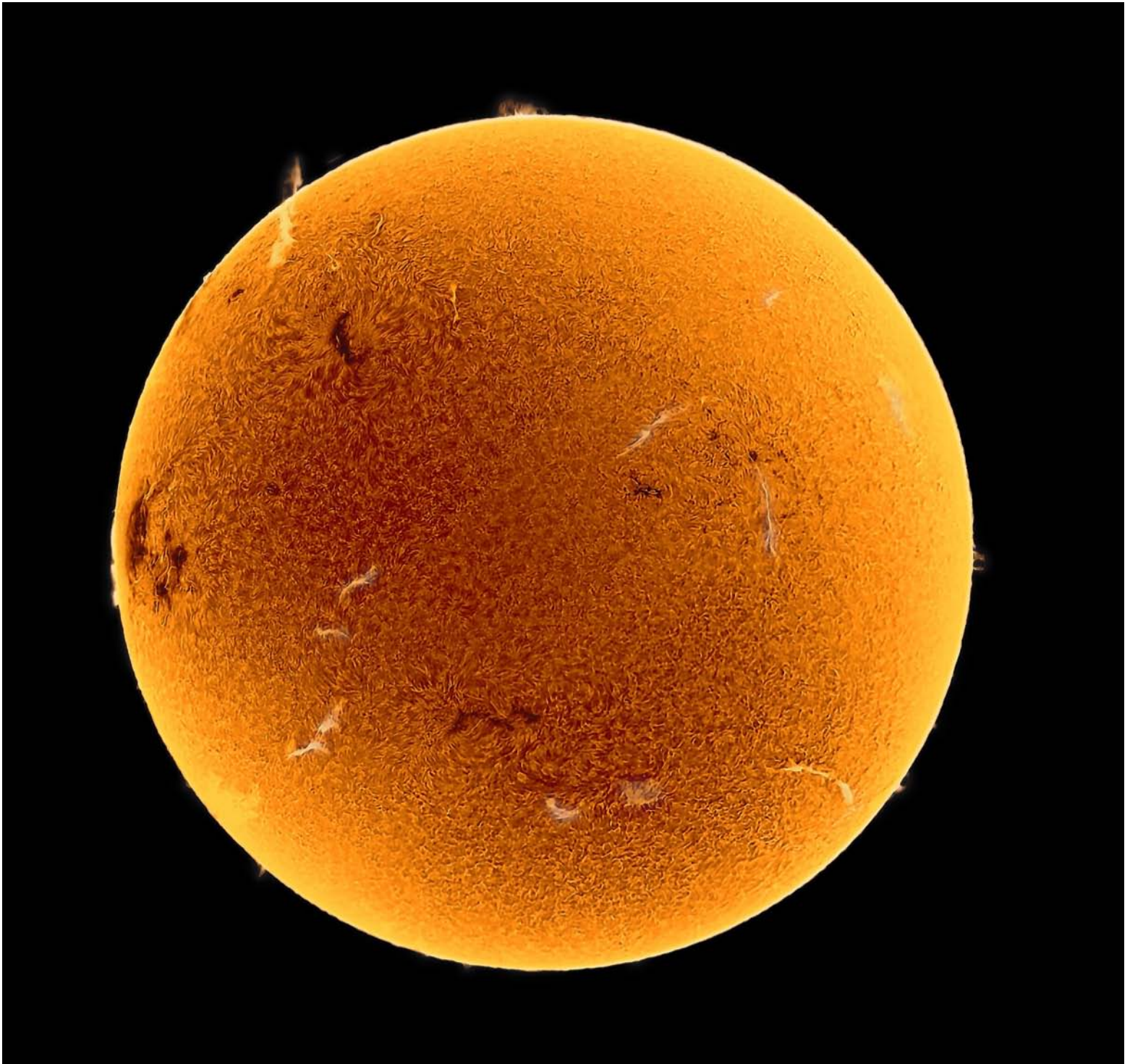
Double Stars: 3 Pe

Also known as **Caldwell 30**, the fantastic unbarred spiral galaxy **NGC7331** sits approx. 40m ly away in the constellation **Pegasus**. It is the brightest galaxy in the field of a visual grouping known as the NGC 7331 Group of Galaxies. Other members include NGC 7335, 7336, 7337, and 7340, which lie at distances of approx. 300-350m ly.



## Member's Photos

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RASC Kingston member **Shelley Jackson** took this beautiful sun shot on 20 November 2023. She noted that “Still experimenting with processing. Solar imaging is much more enjoyable than I had anticipated. It's a different experience each and every time I capture the sun. Still not too sure about the orientation. I copied the orientation someone else posted from that day...so, if it's wrong....it's THEIR FAULT! Lol!”

Tech specs: Equipment - Lunt 60mm pressured tuned Hydrogen alpha solar telescope; LS50FHa Front Mount 50 mm DoubleStack solar filter; Player One Mars mono cam piggy backed on - Meade 10"SCT; LX200 mount; Capture and processing programs; Sharpcap; Autostakkert; Gimp; IMPPG; PixInsight.

## About Us

### The Royal Astronomical Society of Canada

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 Royal Astronomical Society of Canada Kingston Centre (aka Kingston's Astronomy Club)

We are Kingston's Astronomy Club, a local centre of The Royal Astronomical Society of Canada, founded on June 2nd, 1961. We hold monthly meetings, on the 2nd Wednesday of each month (September-June), via zoom videoconferencing and in person, from 7:00-9:00pm Eastern Time.

\* 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 out our members with questions in astronomy and equipment use, and hold private observing sessions, and also with Queen's University Observatory Open House, on the third Saturday of each month, at Ellis Hall, Queen's University.  
<https://www.queensu.ca/observatory/>

\* We support the local Frontenac, Lennox & Addington County Science Fair (FLASF) with a prize in astronomy.

\* We are here to answer your questions on astronomy.

JOIN US!

<https://kingston.rasc.ca/join>

## Board of Directors & Officers 2022-2023

*Honourary President: David H. Levy*  
*Past President: Rick Wagner*

*President: Malcolm Park*  
*Vice President: Kim Hay*  
*Secretary: Elena Zanetti*  
*Treasurer: Susan Gagnon*  
*Editor: Andrew B. Godefroy*  
*Webmaster: Walter MacDonald*  
*Librarian: Kim Hay*  
*NCRRep: John Hurley*  
*Loan Equipment: Kevin Kell*

The Royal Astronomical Society of Canada Kingston Centre 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 to the RASC Kingston Centre

#### RASC Central based benefits:

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

#### Centre provided benefits:

- \* Monthly Centre Newsletter – Regulus
- \* Weekly social videoconference chat (members and guests only)
- \* Monthly videoconference meetings (open to the public)
- \* Equipment loan program