

# Regulus

Newsletter of the RASC Kingston Centre

Vol. 50, No. 6

June 2023



**M20 The Triffid Nebula**

On the Horizon ....

Centre Meetings  
Queen's University Ellis  
Hall Room 226

14 June 2023 - hybrid  
Last meeting for the  
season. Have a grrat  
summer!

Next meeting is on 13  
September 2023

Centre meetings occur on  
the second Wednesday of  
every month at 7pm EST.  
More details on p.5.

RASC-KC Member's  
Retreat - 22 July 2023

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

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Wow, this spring is certainly going by quickly. Not that there has been much observing. The skies have been filled with smoke from Alberta's forest fires, and of course our nights are getting much shorter, so nighttime darkness is precious.

Our June meeting, on June 14, 2023, 7:00 p.m. will be a Hybrid meeting. We will have Blake Nancarrow, who is the Chair of the RASC Observing Committee. He will be speaking to us on "Getting Certified". The RASC has a number of Observing Programs, and Blake will touch upon them all. Blake also heads up the Training on the Stellarium

Program for RASC Members.

Since June is our last meeting before the Summer Break, we do have some summer activities coming up. We will have a slimmed down version of Regulus through the Summertime.

July 22, 2023, members John & Peggy Hurley have graciously opened their home to a Potluck gathering. Bring your chairs, dishes & cutlery, a dish to share and bug spray! Hats and sunscreen too! Time to show up will be around 15:00 (3:00 pm). The BBQ will be available for use or warming up your dishes. A map and directions will be sent

to the members when the June Meeting announcement goes out.



## UPCOMING STAR PARTIES

Summer is coming up and with that we have Star Parties. The RASC Star party page has been updated by the webmaster <https://rasc.ca/star-parties>.

Starfest August 17-20th is brought to you by the North York Astronomical Association. Check out the <https://www.nyaa.ca/index.php?page=/sf23/sf.home23> for all the Speakers and events! With less than one year to go for the Total Solar Eclipse, there will be lots of information to share at this Star Party. Registration is now open!

Fall'N'Stars is set for September 15-17, 2023, at Johnson's R.V. Park in Prince Edward County. Check out <https://rascbelleville.ca/fallnstars/> for details. This year it is Belleville's lead on the joint Star Party with the RASC Kingston Centre.

Have a Safe and Happy Summer! Clear skies, take your Sky map, lounge chair and red covered flashlight, and look up! Enjoy the night skies!

## Editor's Eyepiece

Andrew B. Godefroy



I initially believed that I would start the RASC **IWLOP** at the beginning. Items 1 and 2 in the main observing list are *Mare Crisium* and the Eastern Basin Group (*Crisium* and *Fecunditatus* Area) respectively and it seemed logical that I would just follow the terminator on successive nights from new moon to full moon. However, I was quickly disabused of this belief by the weather and other factors, such that by the

time I could organize my first dedicated observing session the Moon was already in the last phases of its first quarter. There would be no orderly observing of the moon this summer. Instead like many things in life, I just had to start in

the middle. My first decent target in May was a large portion of *Mare Imbrium*. At first quarter (days 9-10) most of the eastern half was nicely illuminated with excellent shadow and contrast. Features such as ridges, valleys, mountains, ranges, and even smaller craters, were especially visible in these conditions making for some detailed and captivating viewing at the eyepiece. Looking forward to completing more objectives in June!

**On the Cover:** RASC Kingston Centre member **Joe Gilker** (Dark Arts Astrophotography) caught this stunningly colourful shot of the **Trifid Nebula** (M20) at the L&A County Dark Sky Viewing Area with his Sky-Watcher Quattro 250P @ f/4 and a ZWO ASI1600MC Pro camera taking 30x 2-minute exposures. Stacked with Astro Pixel Processor and processed with PixInsight and Photoshop CC. Photo shows only central section - find the original here: <https://bit.ly/3OibOxo>



## Wendee Among the Stars

Never in my life did I appreciate the peace and beauty of the night sky as I do now. It offers solace; it brings peace. And now more than eight months since my wife Wendee's death, it is an easy reminder of why I love the sky.

Over many years, I have been reading brief poems for multiple online and personal sessions. One of my favourites is the Denver Astronomical Society, which I first joined in May of 1963 while I was a patient at the Jewish National Home for Asthmatic Children in Denver. Recently they even elected me as their poet laureate. Like the night sky, poetry brings peace.

The days go on; I watch the news, the details of war, of debt, of artificial intelligence well beyond my own, of murder, theft, and lies. But as the Sun sinks in the west, the shadow of our planet rises in the east, and with the daily darkening of the sky comes a bigger picture. The Universe does not care about the details; our days and years are nanoseconds in the cosmic timescale. But when we look toward the sky, with our eyes in the hope of catching a shooting star, through binoculars to make out a new pattern of stars, or with a telescope to celebrate a planet's rings or a far-off galaxy, we can enter that cosmic picture and be part of it for a brief time.

In my professional life, I have tried to connect the night sky to poetry, but those rhymes are rarely my own. I make an exception this month. Besides raising my insight and bringing me peace, I find nothing that so stirs my heart as the joy of the night sky.

*Each day I awake; today is the day!  
I look toward her, she is not there.  
My heart goes on, but do I care?  
Will anything—anything—let in some ray.*

*The night is dark, as dark as coal.  
The sky is stars from west to east  
From south to north, just like a feast  
A pill, heav'n sent to calm my soul.*

*A telescope stands, it stands and waits  
For my eye, it asks, "just one brief look."  
Forward through space, like an open book;  
And back through time, open wide the gates.*

*I see a star; why is it there?  
Lapis philosophorum, philosopher's stone  
That strikes the night, it ushers me home.  
As part of a pattern to learn, I dare.*

*But reason not. General relativity;  
Gravity's geometry, no speck of thought;  
No idea works, no system bought,  
A spacetime crash, to save its dignity.*

*She's part of me, a beam of light  
Among the stars, in the sky a plant  
Not there, but there, my soul enchant.  
From grief to joy, all through the night.*



Wendee silhouetted against the evening sky as she observed a conjunction of Venus and Jupiter. Photo credit: David H. Levy.

# Meeting Minutes - May 10, 2023

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*Hybrid Meeting delivered in person at Queen's University, Ellis Hall 226, and via Zoom and Youtube online.*

Starting at 7:00 p.m., Kim Hay, President, welcomed all guests and members to our hybrid Kingston Centre regular monthly meeting with 11 present at Ellis Hall, room 226, Kingston, Ontario, Canada, and 22 registered Zoom guests. Beginning with our land acknowledgment, Queen's University is situated on the territory of the Haudenosaunee and Anishinaabek and we respect that land we meet on.

Announcements: RASC GA 2023 was held virtually May 5-7 with 200 registered. Three evening speakers, Dr. Shandin Pete on Shayla Sky Lore, Eric Choi, a science fiction author and aerospace engineer, and Linda Shore, from the Astronomical Society of the Pacific, on outreach to the public. Through the attendee hub, talks will be uploaded for registrants to rewatch. June 27<sup>th</sup>, RASC AGM 6-8 pm. John and Peggy Hurley are hosting a summer gathering on July 22<sup>nd</sup>, pot luck, bring dishes and chairs. Our June speaker will be Blake Nancarrow, "Get Certified". May 13<sup>th</sup> is Science Rendezvous, 10 – 3. Queen's Observatory open house, May 20<sup>th</sup>, 7 pm. Wednesdays are our Members Social Zoom Time, to join email us [kingston@rasc.ca](mailto:kingston@rasc.ca).

Guest Speakers: RASC Kingston Centre Members

Rick Wagner: Clusters and HR Diagrams. Plotting the colour or temp or spectral class against the luminosity of a star. Rick takes us through gathering this data and their analysis, using Jupyter, Astro Pi and Matplotlib.

David Levy reads Poetry: David read a quote from Guillermo del Toro on organizing the universe. Then, a special poem written by David the night before, "Wendy".

Kevin Kell: On April 16<sup>th</sup>, Kevin took a road trip to the Lennox and Addington Dark Sky Viewing Area, and by taking video gave us a virtual tour. Check the Astro Google Calendar for their upcoming events. Kevin's Serenity II 4'x4'x4' imaging observatory, with a roll top roof oriented to

the east, originally had an 8' roll off, modified to 10', but still did not give a clear view of the horizon in the east. The observatory was rotated and Kevin shared a time-lapse video.

Rick Wagner then presented What's Up in the Sky, looking ahead through May and into June.

Member's Observing Reports – Rick shared a video from his all-sky camera with a QHY colour camera running all night with 30 sec exposures. Susan is up to almost 300 variable estimates she has reported to the AAVSO and looking forward to breaking this personal record. She continues to modify her observatory with inverted V Wheels delivered recently. Susan enjoyed the GA and recommends watching the GA videos available. Kim happily announced that Susan has completed her Messier certificate with the plaque delivered in June. Congratulations Susan!

Laurie reported on the QUO open house with she volunteered on the deck with Devan and Elena. A very busy night with hundreds of people attending. Jeanette enjoyed observing the full moon. Steve had 2 very good nights and despite the wildfire smoke and the moon, imaged 6 galaxies and 5 star clusters. Roger has begun to image asteroids with an association the Kingston Centre. After already imaging Asteroid Kim Hay, then found David Levy and upon request sent the image to him, then imaged Andy Blanchard. Mike Haines is too low and will have to wait until it rises in the east again. 9070 Ensab (Leo Enright and Michael Sabatini) is next and Roger is having fun hunting these down. Rick also hopes to image asteroids found by friends. Mike has been imaging and will attempt to put a garage door on the observatory.

Kevin observed an M3.9 flare on May 9<sup>th</sup> caught by the Radio JOVE system. A Raspberry Pi cam has replaced the ZWO 120 camera, still being tweaked. Bruce was out observing and imaging Mercury, the Pleiades, Orion, Gemini and the moon. Glen has had many rainy nights in Calgary. Stan has joined Council again and busy with Science



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, sharing some of the best views each month.

02 Jun - Mars 0.1° S of Beehive

03 Jun - Full Moon 23:42EDT

04 Jun - Venus at greatest elongation east (GEE)

06 Jun - minor planet 11 Parthenope at opposition (mag 9.3)

10 Jun - Last Quarter Moon

12 Jun - Lunar X visible near crater Curtiss

14 Jun - Jupiter 1.5° right of Moon shortly before sunrise

16 Jun - very old very thin crescent Moon visible low in the NE ~45min before sunrise

16 Jun - minor planet 20 Massalia at opposition (mag 9.9)

17 Jun - L&A Dark Sky Viewing Area: Astrophotographers Assemble (group astrophotography session)

18 Jun - New Moon 00:37EDT

18 Jun - North Frontenac Star Gazing Pad: The Nearest Star: Our Sun (13:00-16:00, Father's Day)

21 Jun - summer solstice 10:58EDT - the Sun is as far north as it gets and begins moving southward again, astronomical summer begins.

23&24 Jun - L&A Dark Sky Viewing Area: Laser-guided star tour (22:00, reserve in advance)

26 Jun - First Quarter Moon



## Continued from p.4 ...

Rendezvous, has imaged the sun and will be posted to the list. Malcolm has been mostly remote imaging and shared photos of raw unprocessed photos of quasar 3C 273, approximately 2 billion light years away. Kim has been solar observing, has set up new Sky Adventurer and will use the Canon with the SA100 and take images of spectra.

We are at [Kingston.rasc.ca](http://Kingston.rasc.ca), on Facebook – RASC Kingston Centre Group and on YouTube at RASC Kingston Centre.

Our next hybrid meeting, Wednesday, June 14<sup>th</sup>, 2023, live at Queen's U. Ellis Hall room 226 and on Zoom. Our guest speaker will be Blake Nancarrow, “Get Certified”, talking about the certification programs that the RASC has to offer. Meeting ended at 8:38 p.m. with Kim thanking all.

Created by Elena Zanetti



**Interested in focusing your observing goals? Why not explore one of the many RASC Observing Programs? For more information on beginner, intermediate, and advanced courses, visit the main page at: <https://rasc.ca/observing>**

# Science Rendezvous Kingston 2023

*Courtesy Linda Colgan and Catarina Chagas*

Thank you for making the 13th edition of Science Rendezvous Kingston the biggest yet! Over 5,300 Kingstonians participated in Canada's largest one-day pop-up Science Discovery Centre at the Leon's Centre and on The Tragically Hip Way.

This year's theme was CREATE and showcased how discoveries are made and new knowledge is constructed by scientists in labs, forests, space, underground, in hospitals, and remote stations. The day was featured many of the special touches that have led to national awards in the past, such as STEM activities to do at home, swag bags and unique displays.



*RASC-KC President Kim Hay welcomes visitors to the astronomy kiosk at Science Rendezvous Kingston 2023. Photo credit: Kevin Kell.*

The RASC-KC participated again, with eight volunteers. Big thanks to Bruce Elliott, Susan Gagnon, Devon Graham-Ancsin, Laurie Graham, Kim Hay, Kevin Kell, Rick Wagner and Elena Zanetti! We arrived at 08:30 for a 10:00 start and went through to 3pm, packed up by 3:30 and on the way home to recover. We had three solar telescopes setup: Laurie and Devon, Susan, and Kevin. Initially Kevin was running with a video projector but it died within one hour of startup... very old bulb. Thank you Bruce for the use of the Solar Filter!

Elena, Bruce, Kim and Rick covered the info tables and handed out hundreds of stuff. We handed out 400 Solar view finders for the October, 14, 2023 partial Solar eclipse and the April 8, 2024 Total Solar Eclipse. There were three activity sheets stapled together (250) along with crayons, stickers (Big Hit, since the kids could pick the ones they wanted). Star finders, left over calendars, Mary Lou's First



Telescope, Lunar Charts, and some left over 2009 IYA cards. Bruce Elliott had some great question cards that were quite the hit and great conversation starters.

We did have a shade tent but the gusty wind almost blew it away in the afternoon. Laurie produced an additional display poster that we hung on the tent along with the two from previous years. Laurie also produced some nice laminated hand outs on the make up of the Sun, Sunspots, and the size of the Earth and Jupiter compared to the Sun! This really helped people to understand the sizes of the Sunspots and what they were seeing.



*RASC-KC volunteers set up telescopes so that members of the public could observe our closest star! Photo credit: Kevin Kell.*

# Science Rendezvous Kingston 2023

Queens Astronomy was also there, with Coronado Hydrogen Alpha solar telescopes (along with the RMC Ha telescope) and a solar system walk display. A lunch was provided along with a nifty T-shirt. It is not too early to think about volunteering for next years event!

The volunteers have also met and had a de-brief , and have ideas to put together for next year. Thank you all volunteers again, without you this would not have been such a great success!



*Photo below: A Fantastic crew of volunteers helped make the day a success! Shown left to right: Laurie Graham, Devin Graham-Ancsin, Rick Wagner, Kim Hay, Kevin Kell, Susan Gagnon, and Elena Zanetti. Bruce Elliott (not pictured) was also present.*





*Serenity II rolling off its platform to the East. Image: Kevin Kell*

The Starlight Cascade Gardens and Observatories Serenity II observatory needed to move.

It has been in its current location for approximately two years. In that time some of the thoughts and assumptions of that time have shown to be wrong. In its initial 2 year ago design the 8' deck became a 10' deck in the hopes of rolling it further away from the mount.

Initially the roll off building was meant to go to the east, where it would be under the treeline in the line of sight from the telescope to the roof peak. In reality, measurements later showed that it was far taller than the treeline and did in fact often block planetary objects on the Ecliptic.

So the decision was made to move it.. more specifically to rotate it 90 degrees CCW to the north. That would clear up the eastern horizon.

Just before the day of the move, more thought went into this, more measurements were done, and it was realized that moving 90 deg CCW would in fact cause a new problem... Polaris may be obstructed by the roof peak. The actual measurement from the primary mirror in its home/park/facing polaris position was around 40 degrees. This was close enough that all things considered.. was too close.

So at the last minute, the move was changed from 90 deg CCW to 45 deg CCW. This would be the best of both worlds, opening up the eastern horizon and keeping the northern horizon and Polaris accessible.

The move occurred on Friday 2023 April 28 and took about 6 hours start to finish.

The process was basically to jack the deck and building up, support them on 2x8 wood and slide/push them around in place. New holes were dug, gravel and sand laid down, then the two deck blocks of each foot was moved around into place. The deck was lowered, locking into place in the deck blocks. Levelling was performed using shims on the top of the deck block.

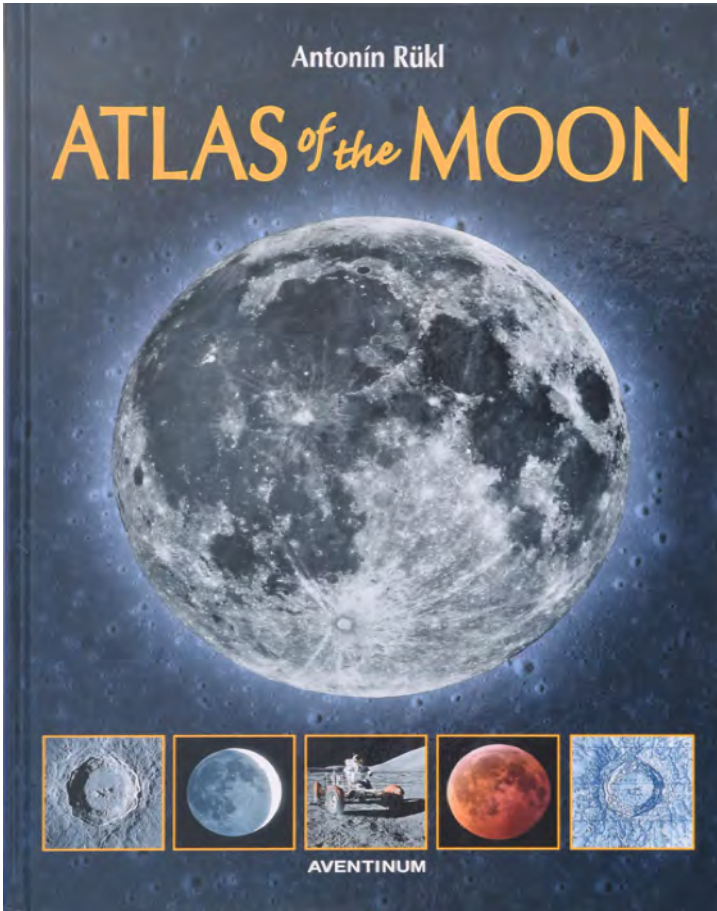
Done! Many pain pills later and rest followed! This is the new position of the observatory:



*Serenity II repositioned on its new platform. Images: Kevin Kell*



# The Astronomer's Bookshelf



*Antonín Růkl. Atlas of the Moon. 7th English Edition (updated and revised). Prague: Aventinum, 2012. 224pp. illus. maps., ISBN 978-80-7151-268-4.*

Noted Czech astronomer and lunar cartographer Antonín Růkl (1932-12016), who served as the head of the Prague Planetarium for nearly 40 years, had a special affinity for the Moon and its selenography. Having published his first lunar maps in 1965, he went on to produce many other works including one in 1991 that quickly became the standard reference for amateur astronomers around the world.

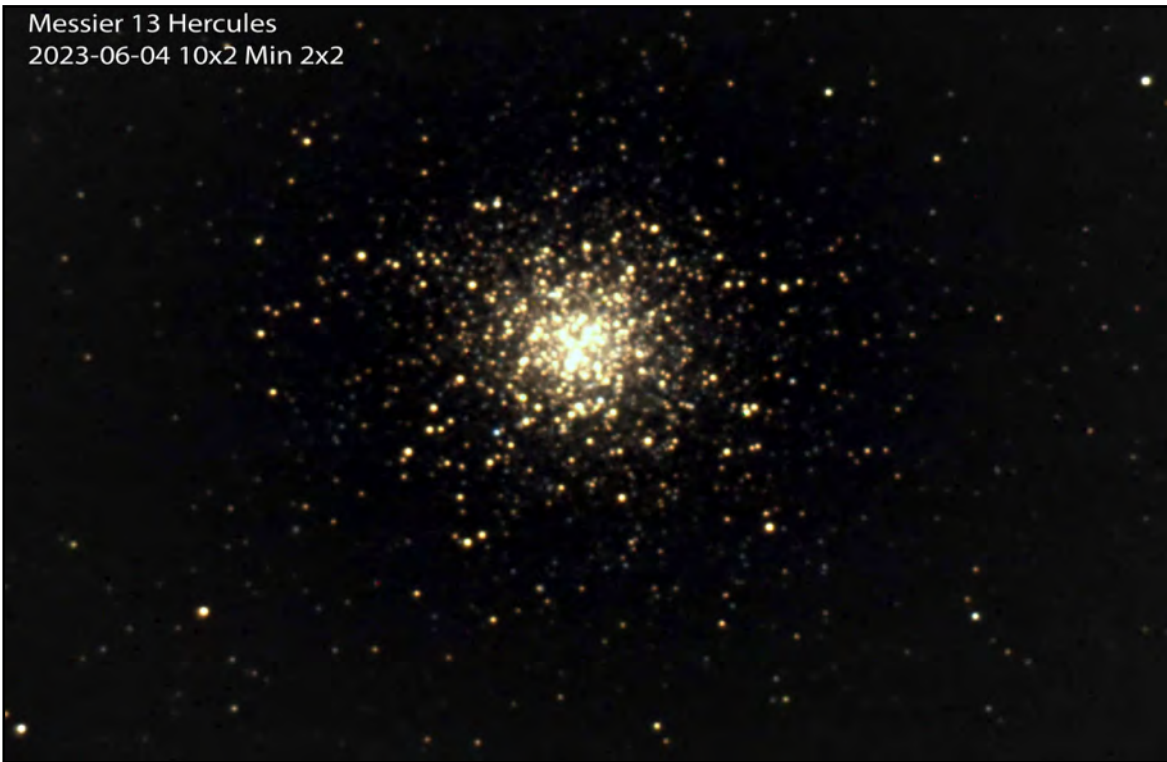
Růkl's *Atlas of the Moon* was the first easily accessible yet comprehensively detailed atlas on the market, and its clear format and transportability quickly made it the go to reference for backyard astronomers in the pre-Internet era.

When the RASC created the Isabel Williamson Lunar Observing Program (IWLOP) in 2006, they included Růkl's Atlas as the main reference for the 135 mandatory and 10 optional observing targets in the program.

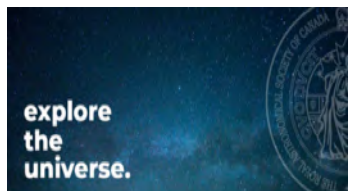
Earlier this month *Sky & Telescope's* Shop at Sky Store announced a new printing of this venerable book, making it available once again for a short period of time to those who may still be looking for it. For those considering the RASC's Explore the Moon program and/or the IWLOP, Růkl's book is essential as a guide for lunar observations.

## Member's Photos

Messier 13 Hercules  
2023-06-04 10x2 Min 2x2



This excellent photo by centre member **Stephen Craig** shows the majestic complexity of **(M13)**, the great globular cluster in Hercules. First recorded by Edmond Halley in 1714, M13 is approximately 22.2 ly from Earth and 145 ly in diameter. A dense cluster, M13 is estimated to contain over half a million stars. Craig captured this image on 4 June 2023.



## 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 hybrid 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 second or third Saturday of each month, at Ellis Hall, Queen's University.

\* 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: Kim Hay*  
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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 hybrid meetings (open to the public)
- \* Equipment loan program