Regulus

Newsletter of the RASC Kingston Centre

Vol. 50, No. 2 February 2023

Pleiades Cluster (M45)

On the Horizon ....

Centre Meetings
Queen's University Ellis Hall Room 226

8 February 2023 - hybrid
8 March 2023 - hybrid

Centre meetings occur on the second Wednesday of every month at 7pm EST. More details on p.4.

If attending in person please wear your mask!

Queen's Observatory Open House - Ellis Hall

18 February 2023
18 March 2023

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

In this issue ...

President's Nook

Kim Hay

The January meeting of the RASC KC started off with a hybrid meeting, in Room 226 Ellis Hall. It's quite a large classroom, round tables, lots of room and four projection screens. We had two lapel mics that worked well, and our Guest Speaker Scott Young from the RASC Winnipeg Centre/ Manitoba Museum, gave us the in behind technical setup of the Dome @Home setup. We had a before meeting dinner at an Irish Pub - Tir Nan Og - in downtown Kingston. A little pricey, but it's been a few years since we have done this event. Our usual eatery had shut down, and the new facility is still not open. So, in February, we will try another spot for this. Suggestions anyone?

While we are waiting for some clear skies because we have Comet C/2022 E3 (ZTF) to view, we can meet up on our weekly ZOOM sessions. Some of our members are doing great work with their Astro gifts from Christmas.

The TSP 2023 (Texas Star Party) email has been sent out which will be May 14th 10:00 am to Sunday 10 am, May 21, 2023. It's the first time I have received an email to attend this event. But Registration is open for those who are travelling South.

RASC Belleville, lead for this year's Fall N Stars have set the date of Sept. 15-17, 2023, with the website and more updates to come by April. Mark your calendars. Steven Burr from RASC Belleville gave a presentation on behalf of the SSJI (South Shore Joint Initiative) on a presentation of a South Shore Dark Sky Preserve. To watch the replay, here is the link: https://www.youtube.com/watch?v=02uOWNupIQ4

Light Pollution has come up in the news recently. Radio stories on CBC, Dark Sky Association and the BBC had articles. Our nighttime skies are being lost, as urban sprawl takes away from the dark areas, but we also have to worry on Sky Pollution or Satellite pollution. A member (WM) sent a link to the chat list showing re-entrance of rockets bodies, but the number of satellites was astounding, take a look for yourself: https://www.youtube.com/watch?v=Ko8FhK_3tfM

Our February meeting on February 8th, will have member speakers Tim Trentadue and Joe Gilker presenting on the L&A DarkSky Site and Astrophotography. On Jan 15/16th Tim caught an image of Northern Lights and it was shared on the RASC Kingston Centre FB page. Nice to see that someone saw them, even by camera lens. Visit the RASC KC FB page to see the images from Tim, and from our members.

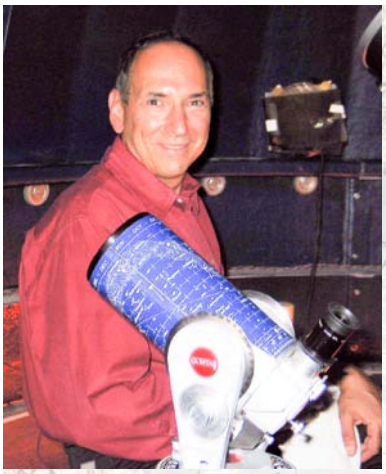
Clear Skies and Keep looking Up!

Editor's Eyepiece

Andrew B. Godefroy

My first telescope was a hand-me-down. My oldest brother got a Tasco Japan Circle K 4VTE 'Asteroid' model telescope one year for Christmas, but he never took much interest in astronomy so it was soon relegated to the family storage closet where it gathered dust for a few years until he left home. I was only 11 or 12 years old at the time, but no sooner had he abandoned it than I sought out my mother and asked if I could dig it out and use it. Getting the nod, I quickly became the new custodian and even gave 'Asteroid' the very unimaginative new name 'Observer'. Admittedly, it wasn't much of telescope – a simply designed 40mm achromatic tube with a focal ratio of roughly f/13 that could magnify from 25 to 50x by adjusting the eyepiece, but it was my very own now and it made me feel empowered to take on the great mysteries of the universe. Though 'Observer' was eventually lost to time after I too left home, I've never forgotten the joy that simple scope brought me. It was my first after all, and one seldom forgets their first when it comes to pretty much anything in life. What was your first?

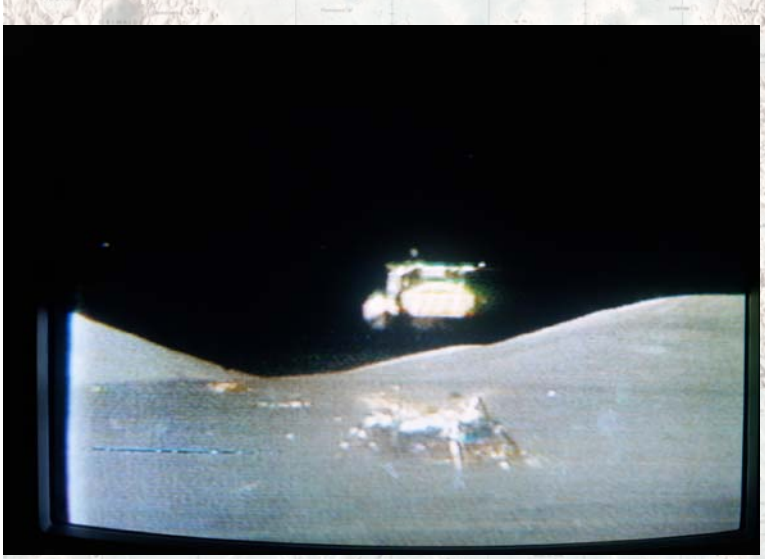
On the Cover: RASC Kingston member Joe Gilker captured this magnificant shot of the Pleiades Cluster (M45) from the Camden Lake Provincial Wildlife Area. Tech specs: Sky-Watcher Esprit 100; Celestron CGX mount; ZWO Astronomy Cameras ASI 1600MC-Pro; Baader UV/IR cut filters; ZWO ASI120 Mini guide camera; Starfield 60mm guide scope. Acquired through 72x 5m exposures; software - Sequence Generator Pro, Astro Pixel Processor, PixInsight.



Back to the Moon

I shouldn't have been surprised by the complete success of the Artemis mission last fall. NASA's A team of engineers really know what they are doing. The mission was fun to watch, particularly the brilliant light when the main engines lit up, and it provided some hope that we may actually return to the Moon, someday soon.

But somehow, it isn't the same. Something is missing.



Using the Lunar Rover Vehicle's (LRV) mounted videocamera parked 145m away from the Lunar Module (LM), NASA Apollo 17 Instrumentation and Communications Commmand (INCO) console operator Ed Fendell captured the only picture perfect lift off of an Apollo LM ascent stage on December 14, 1972 at 22:54:37 GMT.

For those of us who were alive and young in 1961, do you remember President Kennedy's poignant speech to Congress on May 25, 1961, when he asked the nation to commit itself to landing a person on the Moon? Only three days after my 13th birthday, this was a call I heard distinctly. I did miss the fact that this was the second of three speeches. The first call was during his inaugural address: "Let both sides seek to invoke the wonders of science, instead of its terrors. Together let us explore the stars..." And at Rice University he gave his third: "We choose to go to the Moon."

On August 25 of the summer of 1960, I observed a 99.2% partial eclipse of the Moon in which the shadow of the Earth covered almost all the Moon. I remember, a few years later, setting up my first telescope, Echo, across the street to time the Moon passing in front of a star, and explaining to a priest who was passing by, that what I was doing might assist the Moon mission planning. Or not.

I have already written about where I was on July 20, 1969, during that emotional moonwalk. I listened attentively as the astronauts on Apollo 13 somehow managed to return safely home after the near disaster prematurely ending that mission. And I watched the interminable countdown hold when, on December 6, 1972, the launch was stopped just thirty seconds before launch. Yet, just two hours later the lunch was completely successful and the Apollo Program's only Astronaut Geologist, Dr. Harrison "Jack" Schmidt, got the opportunity to conduct the most extraordinary field excursion 240,000 miles from Earth, in the Taurus-Littrow valley of the Moon's southern highlands. I was enormously pleased and proud of Jack," recalled his teacher Gene Shoemaker, "but I was also wistful. There but for a failed adrenal gland, went I." Because of Addison's disease, Shoemaker never made it to the Moon, at least not in life. But after he died in 1997, some of his ashes did land on the Moon aboard the spacecraft Lunar Prospector.

In the 1960s, I used the Apollo project to intensify my own passion for observing the Moon through telescopes and binoculars. In 1961, Kennedy set the goal. Eight years later, humans walked the lunar surface in one of the high points of human civilization. That passion I carry to this day. I still enjoy watching the Moon, looking at its well-known craters and mountain ranges. The Moon is not just a thing in the sky. It is a place. Just twelve people have walked across its surface, but with luck, more people will someday join them.

Artemis I lifted off from the Kennedy Space Centre's Launch Complex 39B (LC-39B) on November 16, 2022 at 06:47:44 UTC. This mission marked the beginning of America's return to the human exploration of the Moon.

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, Andrew Godefroy, at andrew.godefroy@mac.com. We look forward to hearing from you!

Wednesday Socials Pass the 100 Mark!
By Susan Gagnon

The arrival of 2023 marked the end of our experiment in Zoom Socials. I say the experiment has ended because since April 2020 we have had more than 100 and it works quite well!

It has been great fun and very educational. This winter new hosts will try their hand at running the socials. No doubt they will find it as easy as I have, due to participants creating all the content, and great content it has been. I will continue to take my turn as host as well. I will also maintain my role as person most likey to ask a dumb question. It is a pleasure to help members support each other. We continue to experience Astronomy from the varied perspectives of the group and learn how to do cool things. And yes...what cool stuff to buy!

Remember, if you are not on the chat list and want to get the reminder/link to the Wednesday Social hour, send an email to kingston@rasc.ca.

General Announcements

A reminder that if your membership is coming due or has already expired, please renew it at the earliest opportunity at https://secure.rasc.ca

Meetings

The next Regular Meeting of the Kingston Astronomy Club aka The Royal Astronomical Society of Canada - Kingston Centre (RASC-KC), is Wednesday February 8th at 7pm Eastern Time (UTC-5). Centre meetings are held on the Queen's University campus at Ellis Hall, Room 226. Parking is free after 5 p.m. on the Mackintosh-Corry Parking Lot nearby (access this lot from Union Street near Frontenac St), or on Bader Lane just south of Ellis Hall. Ellis Hall itself contains the Queen's University Observatory, is north of Jeffrey Hall (Mathematics) and south of Richardson Hall (Administration) on University Avenue. Meetings are geared for a wide range of astronomy interests, familiarity, and experience!

This month's meeting (February 8) will host Centre guest speakers Tim Trentadue and Joe Gilker. Together they will give a presentation titled 'Lennox Addington Dark Sky site & Astrophotography'. We hope to see you there!

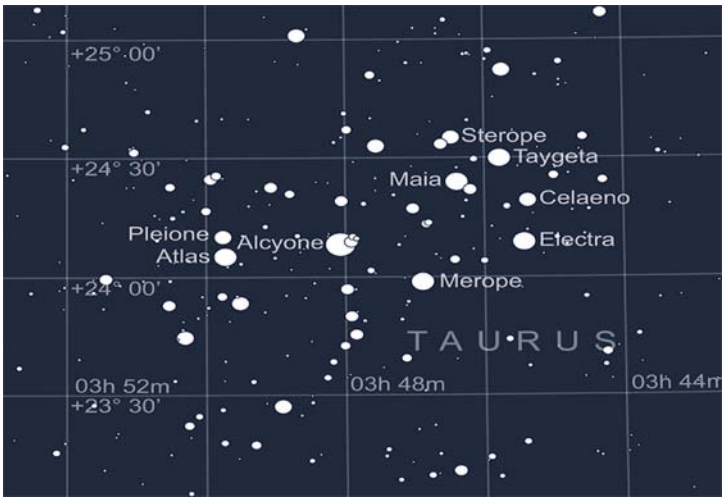
RASC Kingston Centre
Annual General Meeting & Elections

Our current (and soon to be obsolete*) Provincial Corporate Bylaws state that we must hold an annual general meeting and elections every year. Members in good standing vote for Officers slated for election.

The Board structure consists of seven positions of two year terms. The terms are staggered with the President, Vice President and Treasurer's terms being up in odd numbered years and the Secretary, Librarian, Editor and National Council Rep being up in even numbered years. Source: RASC-KC Bylaws (2006).

The Executive consists of the Board, and other appointed Officers.

** As of October 19, 2021, the Ontario Not-For-Profit Corporations Act, 2010 is in force. Your not-for-profit corporation previously governed under the Corporations Act should review and consider updatingthese documents by the end of the three-year transition period from the date the Not-For-Profit Corporations Act, 2010 came into*



M45's main stars. Turn this map right 90 degrees to line up with the photo on this issue's cover.

Meeting Minutes - January 11, 2023

Starting at 7 p.m., Kim Hay, President, welcomed all guests and members to our hybrid Kingston Centre regular monthly meeting with 12 present at Ellis Hall and 25 Zoom guests. Our last in-person meeting was February 2020. The Centre also welcomed its newest members, Robert Crombie, Lawrence McAlpine and David Parsons.

Kim began with acknowledgment and respect that Queen's University is situated on the traditional territories of the Haudenosaunee and Anishinaabek peoples.

General announbcements were next. Kim noted that to join the Centre's Wednesday Members Social Zoom Time, let us know at kingston@rasc.ca We are looking for volunteers to run this weekly event.

Queen's Observatory Open House was secheduled for January 21st at 7 p.m. and the Centre was looking for volunteers to help with observing on the deck.

The Centre's next hybrid meeting, Wednesday, February 8, 2023, will also be a hybrid format, live at Queen's U. Ellis Hall in Room 226 and on Zoom. Our guest speakers will be Tim Trentadue and Joe Gilker, presenting the topic "Lennox and Addington Dark Sky Site and Astrophotography."

David Levy read poetry next: While a graduate student at Queen's University, David began his love of reading Gerard Manley Hopkins. He read an excerpt, *"I am like a slip of comet...."*.

Next in the order was the main presentation, given this month by Scott Young, a member of the Winnipeg Centre, past-president of the RASC, a Planetarium Astronomer for the Manitoba Museum, as well as a musician and an author. In his spare time, Scott takes photometric observations for the AAVSO. Scott's talk, "DOME@HOME: Astronomy Talk Shows for Virtual Astronomy" can be found on YouTube (RASC-Kingston Centre Meeting 2023 Jan11 beginning at 7:20pm).

An engaging talk, Scott offered details on his program offered by the Museum and how he transitioned it from the in-person show closing at the beginning of the pandemic to online content for the public within just 3 weeks, giving people the knowledge to "get outside" even during isolation.

Our editor, Andrew Godefroy, provided a brief update on Regulus. Wigth a strong background of editing professional journals and publications, he would like to use Regulus to showcase our member's passions and interests. Every level of participation and ideas are encouraged for discussion and submissions are always welcome. From beginners to professionals, new equipment, books, documentary and movie reviews, projects at home, photographs, astrosketching, and even hobbies related to astronomy - anything you would like to share can be sent to Andrew for consideration and inclusion.

Next up was Rick Wagner, with a summary of offerings for the Sky this Month

Local Events:

21 Jan – Queen's Observatory Open House – 7 p.m.

AAVSO Webinars

19 Jan – AVSpec Open House

26 Jan – VSX Q&A

4 Feb – How-to webinar: CCD, CMOS, and DSLR photometry

Sky Events – January

12 Jan – Mars is stationary

12 Jan – Comet C/2022 E3 (ZTF) perihelion

15 Jan – Last Quarter Moon

21 Jan – New Moon (15:53EST)

22 Jan – Venus 0.3° left of Saturn shortly after sunset

26 Jan – minor planet 6 Hebe at opposition (mag 8.8)

28 Jan – First Quarter Moon

28 Jan – Lunar X visible near crater Werner this evening

29 Jan – Lunar Straight Wall (Rupes Recta) visible this evening

31 Jan – Mars 0.2° from Moon's limb ~ 1AM

05 Feb – Full Moon 13:28EST

Small Bodies

Comet C/2023 E3 (ZTF)

17 Jan – minor planet 454 Mathesis occultation

(Minutes continued on next page...)

The Sky This Month

Rick Wagner

Any night of the week can offer up a broad range of viewing wonders. RASC KC Past President Rick Wagner keeps an eye on the sky, sharing some of the best views each month.

01 Feb – over the coming 2 week watch comet C/2022 E3 (ZTF) scream southward from nearthrough western Auriga and central Taurus. It could be just barely naked eye but binoculars will make for a better view. Try to look before moonrise or after moonset.

05 Feb – Full Moon 13:28EST (smallest full moon this year)

10 Feb – for the next 10 days the zodiacal light will be visible in the west towards the end of evening twilight as a faint and hazy triangular pillar of light extending up and to the left from the western horizon

13 Feb – Last Quarter Moon

14 Feb – at midnight try to see the Gegenschein – a VERY faint cloud of light high in the south just west of Regulus in Leo

20 Feb – New Moon 02:06EST

22 Feb – Jupiter 1.5º right of the crescent Moon standing above brighter Venus in the western sky after sunset

27 Feb – First Quarter Moon

27 Feb – minor planet 40 Harmonia at opposition (mag 9.9)

28 Feb – Rupes Recta – the Straight Wall – is visible near the lunar terminator

Meeting Minutes Continued from p.5...

Members Observing Reports: Roger repairing drive on SCT to focus on imaging minor planets. Mark imaging moons of Neptune. Rick imaging a few nights, bad weather for all in the last few weeks. Laurie had a good view of Mercury in Costa Rica. Steve imaging Jupiter, Mars, Crab Nebula. Kevin had 46 imaging sessions in 2022 and hopes for more in 2023. Kim imaging solar, yesterday captured solar flares within minutes of their peak. Andrew reading the NASA decadal survey, long term strategy of future priorities of spacecraft exploration, also reading The Mission, spacecraft to Europa. John visually observing when weather is good. Susan happy to be outside when the skies were clear.

Bruce enjoying full Moon, imaging the winter hexagon, discovered “Everything Space”, a National Geographic publication for children. Hans has been listening to Jupiter and the Sun. Malcolm working on mosaics of the Witch Head and M42. Peggy will hold another astronomy session at The Royale. Rose Marie looking forward to clear skies. Tessa enjoys being an armchair astronomer, reading about the James Webb Space Telescope. Keith purchasing and working on equipment, camera focusing attachment, imaging sun.

Lastly, Bruce gave an update on the KFLA Science Fair. March 31st with majority in-person. Volunteers are needed to assist Bruce with judging. Science Rendezvous, May 13th, volunteers needed. Suggestions for hands-on activities to take away are needed.

Meeting ended at 9:00 p.m. with Kim thanking all.

Minutes captured by Elena Zanetti.

Astronomy News

(Pictured at left) Comet C/2022 E3 (ZTF) reached its brightest point in northern hemisphere night skies on January 31st/February 1st 2023 while at perigee, and was easily observable (to those with clear skies!) within the constellation Camelopardalis. This celestial traveller was first discovered by astronomers using the wide-field survey camera at the Zwicky Transient Facility (ZTF) in early March 2022. *Photo credit: Dan Bartlett via Astronomy Picture of the Day.*

Did you see it? If you observed, tracked, sketched, or captured any photos of C/2022 E3 (ZTF) Regulus would love to share your stories and images with our members. What was your experience observing this comet? Send your thoughts and images to the editor at andrew.godefroy@mac.com.

Centre Library Update

Kim Hay

The RASC KC library is housed in the Astronomy shed at the Centre's main address in Yarker. There has been one purchase of a book "The Canadian Space Program - From Black Brant to the International Space Station" by Andrew B. Godefroy. We are awaiting his signature of the book, and it is already signed out. But let me know if you want your name on the sign-up sheet. Also donated to the Library by Kim Hay and Kevin Kell were the following books:

Michael Hanlon. *The Worlds of Galileo: The Inside Story of NASA's Mission to Jupiter.*

Neil Bone. *The Aurora: Sun-Earth Interactions.*

Arthur Berry. *A Short History of Astronomy: From the Earliest Times through the Nineteenth Century.*

Arthur C. Clarke. *The Exploration of Space.*

Isaac Asimov. *Asimov's Guide to Halley's Comet.*

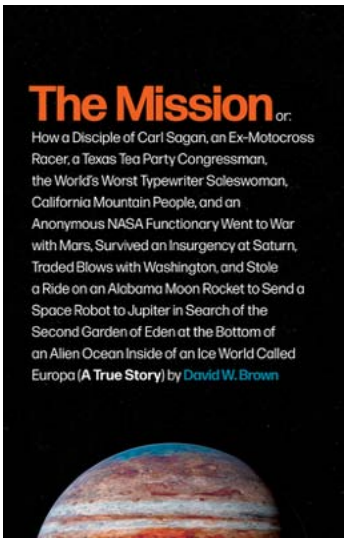
Angus Armitage. *Sun, Stand Thou Still: The Life and Work of Copernicus the Astronomer.*

Bob McDonald. *Measuring the Earth with a Stick: Science as I've Seen it.*

Richard Flaste. *Halley's Comet: The New York Times Guide to the Return of.*

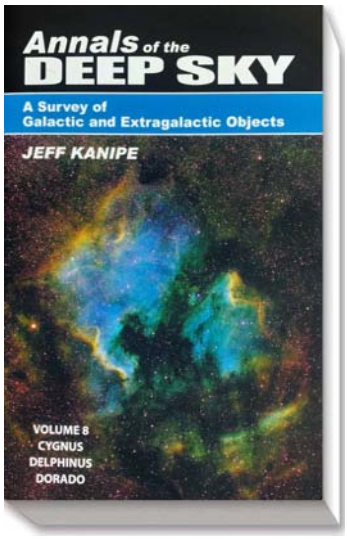
You must be a centre member to borrow books. For the catalogue online see https://kingston.rasc.ca/library

The Astronomer's Bookshelf



David W. Brown. The Mission. New York: Custom House, 2021. 467pp. ISBN 978-0-06-265442-7.

Despite its rather ridiculously long title, Brown delivers a marvellously detailed account of the planetary science community that pursued the Jupiter Icy Moons Orbiter (JIMO) concept, a project that eventually led to the approval of the NASA/JPL Europa Clipper mission. For those interested in solar system exploration, this work covers the many challenges these communities face in pursuing such endeavours - everything from mission design and science objectives to politics, budgets, and engineering. Preliminary investigation of Europa has revealed two of the three critical elements needed for the creation of life - liquid water and the appropriate chemical elements. Once Europa Clipper is luanched in October 2024, it will have an opportunity to search for and find the essential third element - an energy source. 'The Mission' follows the first half of what may become a truly incredible event.



Jeff Kanipe. Annals of the Deep Sky - A Survey of Galactic and Extragalactic Objects Vol.8: Cygnus, Delphinus, and Dorado. New York: Willmann-Bell Inc., 2020. 416pp. ISBN 978-1-942-67501-3.

The Annals of the Deep Sky series is often described as a worthy and timely successor to the venerable three volume *Burnham's Celestial Handbook*. This eighth installment of a projected 12 volume series presents extensive descriptions of prominent stars and deep-sky objects in and around these three constellations, including rarely observed objects and other celestial exotica. Incorporating the most recent findings in astrophysics and cosmology, deep historical context, and captivating illustrations and images, this series aims to provide readers with in-depth profiles of celestial objects beyond the solar system. Whether at the eyepiec or in a favourite reading spot on a cloudy night, this volumes adds to what will undoubyedly be a mainstay reference for amateur astronomers for many years.

Member's Photos

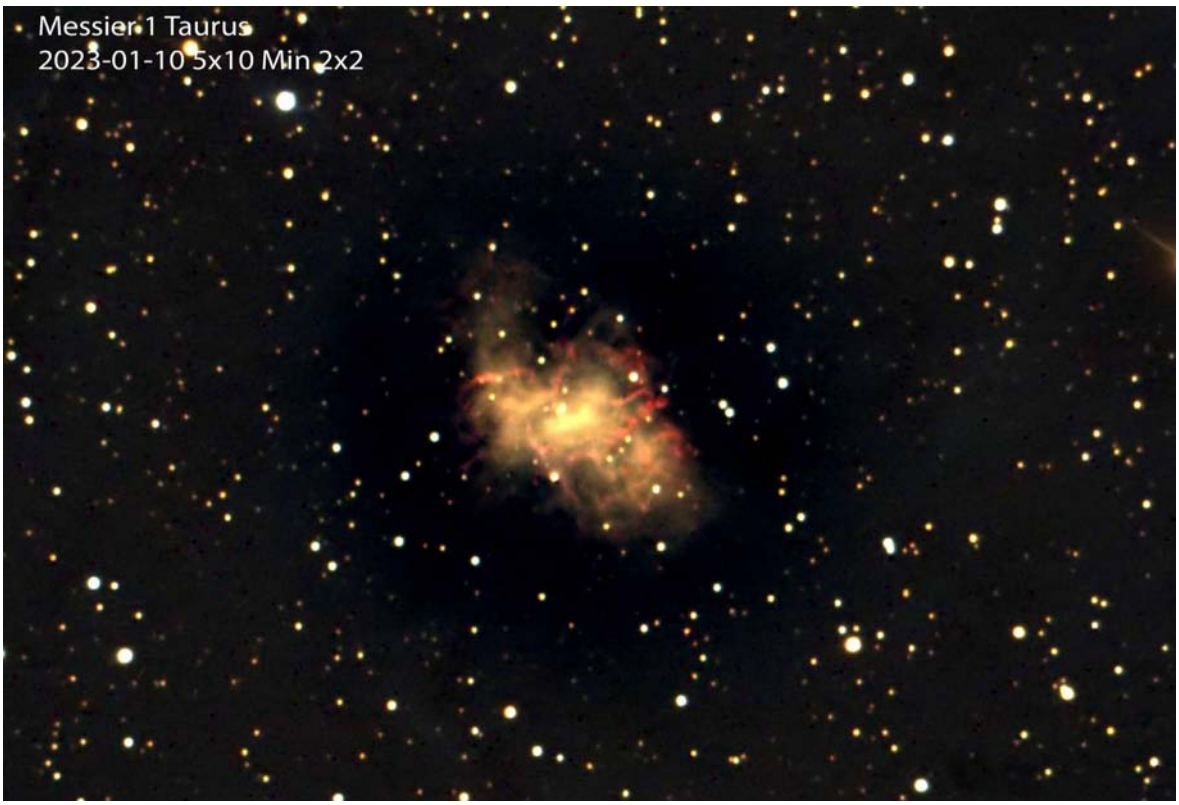


Photo Left: Centre member Stephen Craig captured this great shot of the Crab Nebula (M1) on January 10, 2023. This object has an apparent magnitude of 8.4 and is approx. 6500 ly from Earth. Imaged with a Mallincam Universe on a Celestron C11 SCT. 10 mins of exposure, gain 26db. Stacked in DeepSkyStacker and enhanced in Photoshop.

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 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
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Webmaster: Walter MacDonald
Librarian: Kim Hay
NCRep: 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)
* 6 issues of Skynews Magazine

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