

Regulus

Newsletter of the RASC Kingston Centre

Vol. 50, No. 4

April 2023



Conjunction - Moon, Venus, and Jupiter

On the Horizon

Centre Meetings
Queen's University Ellis
Hall Room 226

12 April 2023 - hybrid
10 May 2023 - hybrid

Centre meetings occur on
the second Wednesday of
every month at 7pm EDT
(2300 UTC).

If attending in person
please wear your mask!

Queen's Observatory
Open House - Ellis Hall

15 April 2023
20 May 2023

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

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There certainly seems to be a lull in the activity all around, and its quiet, just waiting for the release of Spring. The birds are returning, some as early as the end of February, and yes, the clocks moved forward an hour, but even though the skies take longer to get dark at night, all seems quiet. The Spring Equinox was on March 20th, and winter 2022 should be on its way out the door, spring blossoms and warmer air for those observing nights.

Our next meeting is on April 12 at 7:00 pm it will be a Hybrid meeting. Our guest speaker will be Professor Kristine Larsen, from Central Connecticut State University. Her topic is "Women in Astronomy: Past, Present, and Future". Astronomy is not her only passion, Kristine can also be found at the Tolkien Gateway https://tolkiengateway.net/wiki/Kristine_Larsen. Her website is <https://physics.ccsu.edu/larsen/>

The Science Fair will happen on March 30-31 at Queen's Faculty of Education and at this time of writing we are

Editor's Eyepiece



This issue of *Regulus* focuses on resources for the amateur astronomer. Whether you're new to the game or a veteran observer, we hope you find something in these pages of use to your expansion and enjoyment of the hobby. For me, this month I opted to pursue a lead and order a few recent issues of the *Yearbook of Astronomy*. Though advertised

as an annual observer's guide, the *Yearbook* is much more than that, giving readers a broad introduction into the field of astronomy through its excellent mix of of hard science tables and short soft science articles. Beyond

waiting for a winner. We have two judges (Andrew Godefroy and Graeme Hay) who will help out our Coordinator Bruce Elliott this year. Website for the FLASF Science Fair is <https://flasf.on.ca/>

We are looking for short presentations for our May meeting. If you would like to give a 5-10 minute update on what you have been reading or observing please let us know.

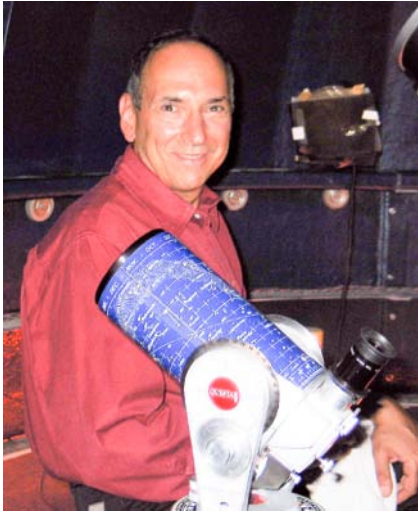
On May 13, the RASC Kingston Centre will be helping out at Science Rendezvous. We will have a booth outside and telescopes setup for Solar Observing. We are always looking for volunteers. If you would like to help out, please let me know by April 10th, and what size you will need for a t-shirt and if there are any dietary restrictions. Let me know at kingston@rasc.ca

From time to time small jobs come up that the RASC Kingston Centre needs help with. The Social Convenor is one such job. Finding out where members would like to meet up for dinner before a meeting and sending out email reminders on the chat list, send out reminders for the Summer (July/August) gatherings at Lake Ontario Park, and help to arrange the Christmas Gathering/ Dinner. Please let us know at kingston@rasc.ca Until next time, keep looking up! There is lots to see in the sky!

Andrew B. Godefroy

books, there is a seemingly endless choice of astronomy websites and streaming video to explore. Kevin Kell and I have listed a few of the ones that have interested us recently, but we'd love to hear what your favourite astronomy website or YouTube channel is, so please send me your recommendations! Finally, next month, we'll be looking at astro sketching in more detail. If you have an article, sketches, tips or tricks to share, please send your submissions to me by 20 April. In the mean time, let's look forward to spring and more clear skies!

On the Cover: Kingston Centre member Brian McCracken captured this excellent wide shot of the conjunction of Jupiter and Venus with crescent moon above, on 24 February 2023. He processed the shot with 12 images stacked with Starry Sky Stacker to reduce noise. Captured with a Nikon Z9 and Nikon Z 24-70mm lens at 29mm, f/2.8, 1/20th sec, ISO 10,000.



Clipper, Cosmos, and Children

It is my honour to introduce you, dear readers, this month to my latest book, “Clipper, Cosmos, and

Children: Finding the Eureka moment.” It is a book specially designed to inspire young people to enjoy the night sky. Whether you are physically young, or even just young at heart, this new book is meant to inspire you to reach for the stars.

This book’s genesis was one day a few years ago. As I strolled into the office in the east wing of our home, I saw Wendee engrossed in the reading of an old book entitled Clipper. “When did you write this book?” she inquired.

“I wrote it when I was ten. Around 1958.” Not a word about the stars in it.

“David, this is the best book I have ever read of yours. In fact,” she laughed, “all your other books have gone downhill since this one.” She asked me that day to rewrite Clipper as an astronomy book. I did, and the book is now published by RJI publishing in 2022 and is available from Amazon for about \$20.

As I wrote and revised the book during these recent years, my mind frequently wandered back to the simple, carefree time of my youth. The original Clipper was a Bar Mitzvah present for my older brother, Richard. Perhaps my fondest memory of this little beagle dates back to the cloudy evening of December 17, 1965. That was the night I had planned to begin my search for comets. At around 11 pm I took Clipper for a walk up the hill near our house. As I ambled up the streets nearby, I began to notice a

small clearing to the west. I quickly decided to hurry home. Clipper had other ideas. As I headed south, Clipper tried to go north. Our tug-of-war lasted a few unforgettable seconds until a quick jerk on the leash persuaded him who was boss. (He was, but he turned around anyway.) At 11:50 that evening, I began my comet search program through a break in the clouds that lasted less than ten minutes. Now, 58 years later, I am still searching for comets.

Each chapter of my book begins with a passage from the original Clipper. In the story, a young boy named Stephen (the original name, now termed for my grandson Matthew Stephen) goes on a nightly adventure with a magic beagle who, with an equally enchanted telescope, takes him on a frolic through the cosmos, seeing the planets, comets, and asteroids, then the stars of our galaxy, and finally to the massive filaments of galaxies that mark the edges of our known universe. Stephen is soon joined by Kaia, a young girl student named in honor of my granddaughter Summer Kaia.



Clipper at rest. Photo credit: David H. Levy

There is also a strange extraterrestrial girl named Tania

who lives on the Moon. Tania comes from a dream I enjoyed decades ago, at the height of the appearance of my brightest comet in 1990, when I encountered a creature shaped like a box, with four feet and four hands and a small head. “I do not have the power to send comets your way,” Tania told me, “But I can change their orbits just a bit so there is a greater chance that you might find them.” There is even a chapter about nothing, in which Clipper takes the children on a tour across the great voids, bereft of galaxies, that are an integral part of our cosmos.

You are likely all familiar with Peter, Paul, and Mary’s wonderful song about a magic dragon, and how it describes how “a dragon lives forever, but not so girls and boys.” The book’s closing chapter explores what happens when the children grow up and pursue their lives.

The book might be fun, but actually, every telescope,

from the tiniest department store telescope to the Webb Space Telescope, is charmed. All it takes is a single, thoughtful gaze that launches you on your own life’s journey across the endless wonder of space and time.



CONNECT with the cosmos & community
RASC GA 2023

RASC GENERAL ASSEMBLY
MAY 5-7 2023

ARE YOU READY TO CONNECT WITH THE COSMOS?

Join a community of astronomy lovers for The Royal Astronomical Society of Canada's 2023 General Assembly.

Get ready for a three-day program full of engaging speakers, social events, astrophotography showcases, youth activities, cross-Canada observing, and more!

TICKETS	
Students:	\$20
RASC Members:	\$35
General:	\$40

This event is 100% virtual.
Zoom links will be provided.

For more information and to register, visit:
RASCGA2023.CA

ASTRO-
PHOTOGRAPHERS
ASSEMBLE

naturally LEA
UNSPOLLED MOMENTS

<https://naturallyla.ca/explore/dark-sky-viewing-area-lennox-addington/>

Centre News and Updates



Stop the press! Got news to share? Send your centre news, updates, pics, sketches, notes, comments, ideas, and links to the Regulus editor at andrew.godefroy@mac.com. We look forward to hearing from you!

Shout out to Kim Hay!

Rik Hill, Solar Section coordinator and scientific advisor to the ALPO, noted in the Winter 2023 issue of *The Strolling Astronomer: Journal of the Association of Lunar and Planetary Observers (ALPO)* [Vol. 65:1], the outstanding work of Associate Coordinator Kim Hay in publishing rotational reports and encouraging other solar observers. "We are deeply indebted to her for this dedication and competence." It was noted that Kim is also the author of the 'Solar Observing' entry in the 2023 RASC Observer's Handbook. Well done Kim, and we thank you for your tireless and continuing service!

RASC Memberships

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

Notes from National Council by John Hurley

Clear Skies All,

I would like to let you all know that the RASC General Assembly (GA) for this year is going to be held on May 5-7 of this year and is an online event again. The web site is: <https://rascga2023.ca/>. Tickets go on sale March 29, 2023, and are: \$35.00 for Members; \$40.00 for Non-Members; and \$20.00 for Youth. This year it is only the GA being held, not the Annual Meeting which is to be held near the end of June 2023. For more details see the poster on p.4 or visit the RASC website.

As many of you have heard Sky News magazine is closing down and the last issue released will be the March/April issue – most of you should have received it already. This was a very hard decision for the Board to make, but they felt they had no choice. In the last 10 years Sky News has been

operating at a profit loss for 5 of them. Total subscriptions were down, ad revenue was way down, and the Society as sole owner was forced to make up for these revenue stream losses. As was pointed out in meetings, as a charitable organization the Society cannot be putting money into a for profit publication. More information on the fate of this publication will be coming as this process unfolds, so stay tuned for more info.



On February 05, 2023, National Council held a meeting, and we were briefed by the Board about the large deficit that was realized by the RASC last year. The Board invited National Council members and the Presidents of each Centre to attend this meeting, which lasted approximately two hours. During this meeting they tried to answer questions for everyone and in the end, they were going to send out a survey to each Centre and we were to get the answers back to them later that week. Unfortunately, this left the Centres with only a couple of days to meet and discuss the survey questions and send our replies back. More information on this survey and outcome is available if you have any questions, please contact me directly.

So far National Council has had many changes to its staff level at the National Office, with Randy Attwood recently stepping up to fill in as our Executive Director again, taking over from Phil Groff who has moved on, until the Board finds a permanent replacement. The next National Council meeting is to be April 2, 2023. As always, if anybody has any questions please ask and I will try to get your answer as soon as possible.

Meeting Minutes - March 8, 2023

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

Meeting Minutes captured by Elena Zanetti

Starting at 7:00 p.m., Kim Hay, President, welcomed all guests and members to our hybrid Kingston Centre regular monthly meeting with 11 members present at Ellis Hall, room 226, and 22 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

Wednesdays are our Members Social Zoom Time, to join email us through the chat list [or contact one of the executives to set it up](#). [RASC General Assembly is May 5-7th](#). [Tickets are on sale on the RASC National website](#). [The Top Ten Binocular Tour by Alan Dyer is on the SkyNews website under the observing tab](#). The final issue of SkyNews magazine is being mailed out this month. Queen's Observatory open house, March 18th at 7 pm. Next meeting on April 12th with guest speaker, Dr. Kristine Larsen, Secretary of the AAVSO, will speak to us via Zoom, "Women and Astronomy: Past, Present and Future". A poster is being created and solar viewers for the 2024 eclipse have been ordered and will be distributed with safety information and Centre information at Science Rendezvous (May 13th), as this is our only big event planned to reach the public. Volunteers are needed with Rick and Laurie agreeing to help. Centre members have been asked if they would like to do a survey (anonymous) by a Queen's Cultural Geography student who attended last month's meeting. The executive has agreed and wait on more information to send out to the membership with no obligation. FL&A Science Fair, March 30-31st, Bruce E. is coordinating with Andrew G. and Graeme H. assisting.

David Levy reads poetry: David read from The Land of Storybooks, by Robert Louis Stevenson, in honour of the Tucson Book Festival, an annual event.

"Scope on a Rope: Stratospheric Balloon Astronomy". Our guest speaker is Dr. Laura Fissel, an Astrophysicist and Professor in the Department of Physics, Engineering Physics & Astronomy at Queen's University. Her research focuses on building stratospheric balloon-borne telescopes along with using ground-based telescopes to study the birth of new stars and planets. This talk may be seen on our YouTube channel at 6:55 minutes.

National Council Update: John Hurley – National Council met Dec 4 and Feb 5 regarding the financial report provided by the Board. Subsequently, a 5-question poll was sent to Centre execs with a response requested within a week. Many centres, including ours, responded within a few days. Monthly payment of membership fees to centres, a unified membership fee, simplifying family membership fees, the operation of the remote telescope and the continuation of SkyNews were all on the table. SkyNews will no longer be published but questions remain on accessibility of the magazine archives and paid subscription refunds. Randy Atwood has taken over the position of Interim Executive Director with some staff reductions having already taken place. Please contact John for more information on the questions, responses from our Centre and others.

Rick Wagner presented What's Up in the Sky

Sky This Month - March 2023

09 Mar – The Cosmology of Dark Energy Radiation, Queen's Physics Dept (QPD)

13 Mar – Exploring the composition(s) of exoplanetary material with white dwarf stars, QPD

14 Mar – Pi Day

16 Mar – High Energy Neutrino Experiments – QPD

18 Mar – Queen's Obs Open House

20 Mar – Connecting the observable to the non-observable at a crossroads, QPD

23 Mar – Special Discussion on experiments in Canada,

Meeting Minutes - March 8, 2023

QPD

23 Mar – The Fast Radio Sky, QPD

27 Mar – Sparkling discoveries by JWST in galaxy clusters, QPD

AAVSO Webinars

1 Apr – How-to webinar: TBD

Sky Events – March

12 Mar – Daylight Saving Time starts 2:00AM

14 Mar – Last Quarter Moon

16 Mar – zodiacal light & Gegenschein

20 Mar – Vernal equinox 17:24EDT

21 Mar – (1) Ceres (mag 6.9) at opposition

21 Mar – Full Moon 13:23EDT

22 Mar – 31h old crescent Moon 1.5° from Jupiter (mag -2.1)

23 Mar – crescent Moon between Venus (mag -4.0) and Jupiter (mag -2.1)

26 Mar – watch Mercury (mag -1.4) zoom up past Jupiter

28 Mar – First Quarter Moon

06 Apr – Full Moon 00:45EDT

11 Apr – Mercury GEE (19°)

Small Bodies

Dwarf planet (1) Ceres (mag 6.9)

10 Mar – 5° from M91 (early morning)

20 Mar – 3.3° from NGC4421 (evening)

21 Mar – New Moon

22 Mar – 3° from NGC4396 (early morning)

22 Mar – 4.3° from NGC4379 (evening)

25 Mar – 6.3° from M100 (early morning)

25 Mar – 4.4° from M100 (evening)

1 Apr – (1977) Shura mag 17.4 occulting 12.2 mag star, max duration 0.9 sec

Member's Observing Reports

John – solar observing with no processing yet, Susan – 2 observing sessions since last meeting, bought observatory rake for snow removal from roof, Bruce – enjoying conjunctions this month and happy having family enjoying and photographing the night skies, Fred – enjoying Jupiter and Venus conjunctions, Keith N – ordered a new mount bar for his white light scope and ready-to-go with clear skies, Peggy – observing planets and the night sky, Steve – imaging galaxies in Leo and Virgo, Roger – working on equipment issues and waiting for good weather, Rick has had 14 observing sessions this year (last year 30 by this time), also working on equipment issues, Jeannette and Rick, John and Peggy enjoying Jupiter and Venus, Kevin K – enjoying British astronomer who sketches the night sky daily (many grey pics in Jan) and is enjoying radio astronomy with new equipment and software installed, data is being uploaded to Stanford University. Waiting for spring thaw to be able to get to observatory easily. Kim shared an image of sun in H-alpha with active regions.

To join our Wednesday Members Social Zoom Time, let us know at kingston@rasc.ca. Our next hybrid meeting, Wednesday, Mar 12th, 2023, live at Queen's U. Ellis Hall room 226 and on Zoom. Our guest speaker is Dr. Kristine Larsen, "Women in Astronomy: Past, Present and Future".

Meeting ended at 9:04 p.m. with Kim thanking all.

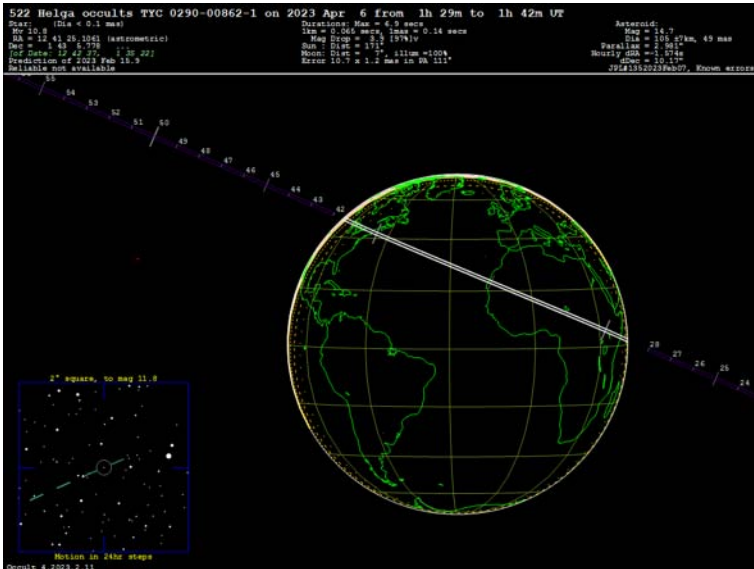


Any night of the week can offer up a broad range of viewing wonders. RASC KC Past President Rick Wagner keeps an eye on the sky, sharing some of the best views each month.

April Skies

01 Apr (no joking!) - minor planet 1977 Shura (mag 17.4) occults star UCAC4 591-031311 (mag 12.2) for less than one second at about 22:20EDT; the star is at 06 23 03.7 +28 10 56.9.

05 Apr - minor planet 522 Helga (mag 14.7) occults star TYC 0290-00862-1 (mag 10.8) for up to 6.9s at about 21:40EDT; the star is at 12 41 25.1 +01 43 05.8, about 30deg above the SE horizon and only 7.5deg above the nearly Full Moon.



Mapping Minor Planet 522 Helga. Source: <http://www.poyntsource.com/New/Global.htm>

06 Apr - Full Moon 00:34EDT

11 Apr - Mercury at Greatest Elongation East - your best chance this year to see Mercury in the evening sky - about

1 hour after sunset Mercury (mag 0) is about about 8deg above the horizon, with much brighter Venus (mag -4) about 16deg up and left.

13 Apr - Last Quarter Moon



Lunar phases. Image Credit: NASA/JPL-Caltech

14 Apr - 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.

15 Apr - at midnight try to see the Gegenschein – a VERY faint ~8° cloud of light slightly south of the midpoint between Denebola (Leo's tail) and Spica.

20 Apr - New Moon 00:22EDT

20 Apr - extremely thin crescent Moon only 20 hours old a few degrees above the WNW horizon about 1/2 hour after sunset. Mercury (mag 2) is 6deg straight above the Moon. Use binoculars to help find them both.

23 Apr - Lyrid meteor shower peaks - a relatively minor shower reaching about 15 meteors per hour under dark skies; best after midnight as Lyra rises higher in the sky.

27 Apr - First Quarter Moon

29 Apr - International Astronomy Day

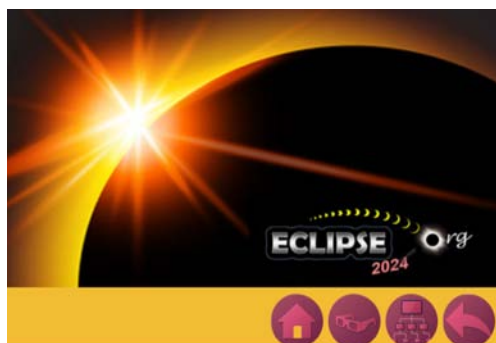
30 Apr - minor planet (7) Iris at opposition (mag 9.5)



Whether you are seeking resources for your own activities and projects, or a new and interesting way to engage in amateur astronomy either independently or as part of a larger organized community, take a moment to check out some of these helpful suggestions from our membership. Do you have a favourite resource or website? Let us know and we'll include it here!

Simulate Solar Eclipse Totality

With excitement growing over two upcoming events over North America - an annular solar eclipse on October 14, 2023 and a total solar eclipse on April 8, 2024 - innovative astronomers and eclipse chasers are leveraging the World Wide Web to share tools and information in preparation for these stellar events. Notable among online resources is <https://eclipse2024.org>, which hosts a wealth of information ranging from weather patterns to eye safety while viewing. Additionally, one can plan their viewing activities with the aid of a detailed preview of what the eclipse will look like from one's viewing spot using the site's eclipse simulator.



Calling all Exoplanet Hunters!



The Next-Generation Transit Survey (NGTS) is a wide-field photometric survey designed primarily to find and characterize transiting exoplanets. For those interested in the topic, you can volunteer to help

sort through data from the survey to classify phase-folded light curves according to the shape of any transits (U or V) and whether there is stellar variability or large datagaps in the images presented. Planet Hunters NGTS currently has nearly 12,000 volunteers onboard - those wishing to join can find more info at: <https://www.zooniverse.org/projects/mschwamb/planet-hunters-ngts>

Looking for Information?

Then look no further than Cloudy Nights, an online community of 176,961 members who all share a common interest in

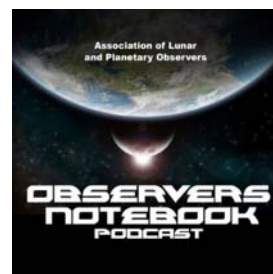
astronomy. Undoubtedly one of the most comprehensive online resources for amateur astronomers, this site includes



pretty much everything one could possibly want - articles and reviews, active forums on every possible topic, photo and sketch galleries, and more. A free account is required to get the most out of the site, but this resource is well worth it. Visit here: <https://www.cloudynights.com>.

Observer's Notebook Podcast

The *Observer's Notebook* Podcast is a broad interest show hosted by Tim Robertson, program coordinator for the Lunar Section of the Association of Lunar and Planetary Observers (ALPO). The podcast has produced over 160 episodes on a wide range of topics from historical observatories to comet sightings, variable stars, deep sky objects, and meteor showers. Aimed at the active amateur astronomer, this podcast is a great companion on cloudy nights. Catch it at: https://www.youtube.com/watch?v=mmKzPP2_ODI



Astronomy by the Bay

Astronomy By the Bay, The Sunday Night Astronomy Show on Youtube

<https://www.youtube.com/@AstronomybytheBay/>

Mike Powell has been an amateur astronomer for over 20 years, a cohost of this Sunday program, and a partner in offering outreach to the public in person. Mike is the equipment specialist, earning the name "MikeGyver" from all of his talent with fixing equipment and for coming up with ideas to keep costs low. Another co-host, Second, Paul Owen, has been an amateur astronomer for about 15 years now, maybe longer. Paul is an accomplished astrophotographer and has had a number of his images published in *SkyNews* magazine. He has also offered teaching through the RASC YouTube page. He brings a wealth of knowledge to capturing the night skies. Third, Chris Curwin is the creator of Astronomy by the Bay social media channels, as well as the host of the Sunday Night Astronomy Show. He's been an amateur astronomer for about 20 years now and regularly offers outreach education, whether visiting schools and groups or at a most visited location outside the Irving Nature Park in Saint John. All hosts are members of the local Saint John Astronomy Club, and have been members of RASC NB.

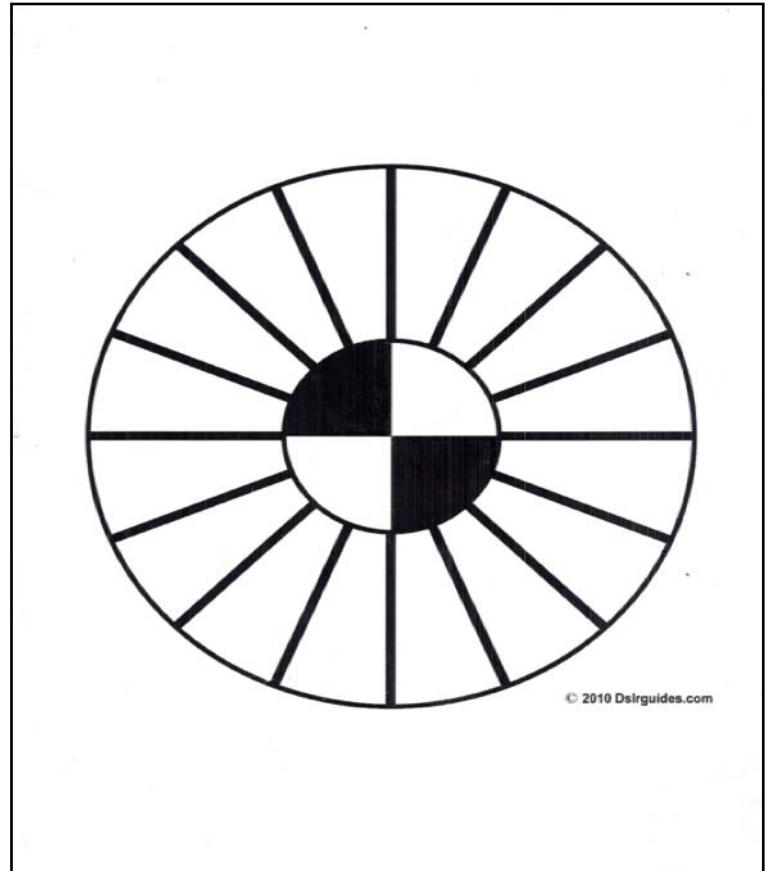
As you all probably notice, most astronomers and astrophotographers wear eyeglasses and because of this, it presents a problem, that the eyeglasses are always getting in the way of the eyepiece, either on the scope or on the DSLR camera. You can never seem to get close enough to see or focus the image correctly, especially in manual focus, so focusing is always a problem and if you do not use your glasses, it is even worse of course. So, you guessed it by now, I am one of those people.

For some time now I have been unable to get the correct focus on my DSLR, for instance, with or without glasses. Even when using the camera's LCD live screen in zoom function, the finished photos were always out of focus.

After many lousy photo results, one day, I did a little googling on the Internet about "help for people with poor eyesight or need for eyeglasses using the camera's LCD live screen". I came across a wonderful little device from a company called Hoodman USA, (www.hoodmanusa.com). Their device is called a Loupe/Sunshade, which fits over the camera's LCD screen. The description sounded great, and it comes with a 3+/_ diopter adjustment for focusing to match your eyesight, so I took a chance and ordered one.



Once I received the loupe/sunshade, the first thing I did was to use one of my lenses on the camera in auto focus mode. I then verified that the camera was in fact, in focus, using a special target for this purpose. Next, I set up the camera by placing the Hoodman loupe/sunshade over the camera's LCD live screen, then using the built in diopter, I adjusted the diopter until I got a sharp image of the target

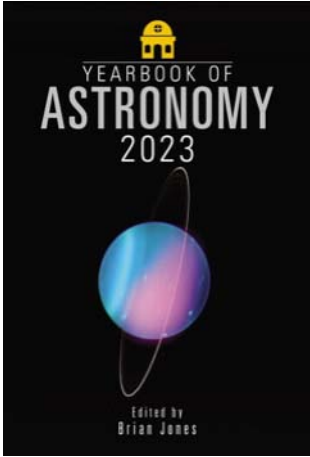


on the LCD live screen. Once focus is achieved, no need to touch the diopter adjustment anymore – though maybe as your eyesight changes, you might need to adjust.

Now I can use the camera on the telescope, or with a lens when in manual focus mode. Then, using the loupe/sunshade, I can bring the scope or camera into proper focus on the LCD live screen, especially in LCD live screen zoom and get the correct focus! Overall, a great little unit!



The Astronomer's Bookshelf



Brian Jones (ed.). The Yearbook of Astronomy: 2023. Yorkshire: White Owl Books, 2022. 336pp. illus. ISBN 9781399018449.

First published in 1962, the 2023 edition of the Yearbook of Astronomy continues its tradition of delivering monthly star charts, observing notes and summaries, and informative articles on a wide range of astronomy and space topics in a compact and highly readable format. This volume includes,

among others, articles on Biela's Comet, Jupiter's atmosphere, the evening apparition of Venus, magnetars, the evolution of radio telescopes, as well as brief biographies of astronomers Sir Patrick Moore, William Tyler Olcott, and Caroline and William Herschel. Perhaps the most interesting entry however is an insightful examination of Elijah Hindsdale Burritt and his authoring of the notable early 19th century book *The Geography of the Heavens*. While there are undoubtedly many annual guides to the night sky to choose from, these volumes present an enjoyable mixed format organized into monthly chapters, making it a reference to last the year rather than a quick single read through.

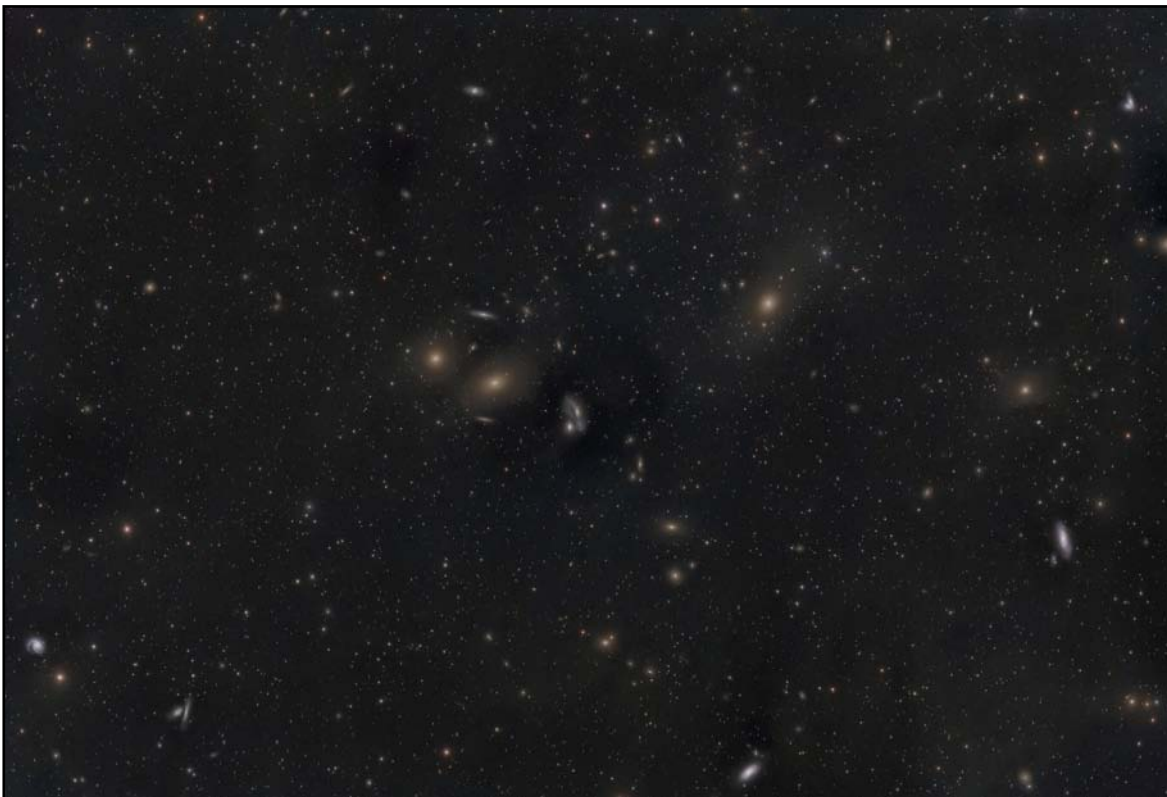


Hélène Courtois. Finding Our Place in the Universe. Cambridge: MIT Press, 2019. 168pp. illus. ISBN 978-0-262-03995-6.

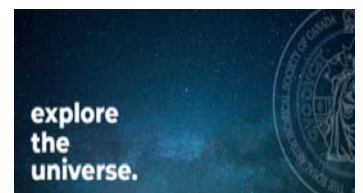
This book relates the tale of a remarkable astronomical journey by Hélène Courtois, an award winning French astrophysicist, professor, and Vice President at the Université Claude Bernard Lyon 1. Over a 20 year period Courtois led a team of international researchers in

mapping our local universe, specifically seeking to accurately determine where the Earth was situated, not just within the Milky Way, but within the much larger local extragalactic supercluster appropriately named Laniakea (which means 'immense heaven' in Hawaiian). Approximately 5 million light years in diameter, it contains about 100,000 large galaxies such as our own, and perhaps as many as a million smaller ones. This fascinating book describes for general readers who was involved in the project, how the research was undertaken, and what visualization and analysis was conducted to map the supercluster itself. As may be imagined, there is lots to be unpacked in this very a humbling read for us humans on this tiny pale blue dot.

Member's Photos



Shelley Jackson captured this fantastic wide FOV image of Markian's chain + IFN (Integrated Flux Nebulosity) showing numerous galaxies found within the Messier, IC, and NGC catalogues. Shot through an Askar 200m FL Astrograph lens and Lpro filter and UV/IR cut filter using a ZWO ASI294MC pro one shot colour CMOS cooled to -20C. Stacked and processed in 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 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.

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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 videoconference meetings (open to the public)
- * Equipment loan program