Winnicentrics

Newsletter of the RASC Winnipeg Centre

July/August 2023

Farewell, Paul and Brenda Paradis!

From left: Paul and Brenda Paradis receives a Winnipeg Centre send-off from President Dennis Lyons at the Glenlea Observatory. See story on page 6.

Ian Cameron, M.Sc.

1949—2023

Ian Cameron died on the morning of June 13, 2023, peacefully, with friends in attendance. Ian was the Centre's contact with the University of Manitoba for several decades through the 1980s and beyond. He ran the Lockhart Planetarium and the introductory astronomy lab sessions for countless first-year students (including several Centre members), and turned the Glenlea's 40cm Evans telescope into a teaching tool. He was a private but very intelligent man, imperturbable, and a bit of an expert in early cultures and astronomy, teaching himself Latin to be able to read early texts. He was also an expert in magic squares and published several papers in the field. Ian retired from the University a number of years ago but remained a friend to the Winnipeg Centre throughout his life. He will be missed.

Winnicentrics is the newsletter of the Royal Astronomical Society of Canada—Winnipeg Centre, Incorporated and is published six times a year. Any opinions expressed are those of the authour(s).

Submissions or comments can be sent via email to: newsletter@winnipeg.rasc.ca.

Centre at a Glance:

Friday, July 14—Annual BBQ at Glenlea Observatory

Bring your own grillables, BBQ and the Presidential Watermelon will be provided! Training sessions on the Observatory and the 14.5" Dobsonian will be available.

Saturday, July 15—Members' Observing Night

Members event at Glenlea (weather permitting) 9pm

Friday, August 11—Monthly Meeting

Featured Speaker: Mark Irvine, "A Hike to the Stars on Mount Lemmon, Arizona"

Saturday, August 12—Members' Observing Night/ Perseid Meteor Party

Members event at Glenlea (weather permitting) 9pm

Spruce Woods Star Party—September 14-17, 2023

Registration available soon

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Website: Winnipeg.RASC.CA
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Forums: rascwpg.groups.io
(For details on how to use the forums and join the various subgroups, see page XX.)

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The President's Corner

by Dennis Lyons

Happy Summer everyone,

With the shorter nights there has been some time to do a little review of the things the Council has done and what we ould like to achieve.

- Congratulations to Silvia Graca for being awarded the National Service Award, and to Wilfred Buck for the Qilak Award. (These awards are presented by the national Society.)
- Michelle Boyce is heading up the Observatory Committee to look at what could be done with Glenlea. Speaking of Glenlea, a big thank you to Scott, Mike, Daemon, Stan, and Bryan for delivering training on the dome and scope. In addition to this Council is planning to have the members observing night happen regardless of the sky conditions. For those less than stellar nights you might be able to get some help with your scope or other equipment, train on the dome and LX200, or maybe just a sit down and chat with fellow RASCals.
- At the last Council meeting a decision to develop a Fundraising Committee was made. The details are to be decided yet, such as what we fundraise for. If you are interested in working on this committee, please let a member of Council know. We don't expect the committee to start before September.
- The Spruce Woods Start Party (SWSP) is a go for September 14-17, 2023. Registration and details will be available soon.
- Looking a little further out to the Partial eclipse in October the RASC Winnipeg Centre will be working with the Planetarium of the Manitoba Museum to deliver an outreach in Assiniboine Park on October 14th .

There are many other things that are being planned, worked on, and thought about. Want to learn more, come out to the Bar b Q and chat up the members of Council. Hope to see you there.

Clear Skies!

Dennis Lyons,

Centre President

Centre News

⇒ **Groups.IO and emails:** The Centre has recently moved its forums and email lists to the Groups.IO platform. For details on how to use the Groups.IO forums, including how to prevent yourself from getting too many emails, check out the handy guide on page 10.)

⇒ **Moderation Policy:** The Centre's Moderation and Editorial Policy was passed earlier this year and applies to all Centre publications, email lists, and social media channels. The policy, along with other Centre policies and the Bylaws, can be found on the Centre's website in the Members section (after you log in).

SOLAR OBSERVING—PART 2

By Dr. Michelle Boyce

In this 4-part series we will be discussing our sun as it relates to solar observing: i.e. the sun, solar equipment, solar photography, and solar observatories.

WARNING: DO NOT USE SOLAR VIEWING EQUIPMENT UNLESS YOU KNOW EXACTLY WHAT YOU ARE DOING, AS YOU COULD PERMANENTLY DAMAGE YOUR EYES!

Many amateur astronomers may have thin film solar filters as part of their kit, which they will pull out on occasion to view sunspots. They are affordable, come in many different types (e.g., glass, plastic film, yellow light, white light), and fit over the telescope aperture (see Figure 1). These are typically white light filters that reduce the intensity of all light coming from the sun, thus protecting your scope and your eyes. These are ideal for viewing sunspots and transits, and vary in cost from $30 (DIY) to $200.

Fig. 1. The authour at Glenlea, observing the transit of Mercury with an Orion 127 StarMax Mac-Cass and a thin-film solar filter over the aperture. *Inset:* Cellphone image of the transit through the filtered telescope.

A step up is the Herschel wedge (see Figure 2), which uses a special prism diagonal that bleeds off 95.4% of the incoming solar light, to dump the heat load. The remaining 4.6% must pass through a neutral density filter to knock the brightness down by an additional factor of 1,000 (0.1%) to protect the eyes. Herschel wedges are for use with refractor telescopes, typically with apertures less than 120mm and greater than f/5.5. Ideally air-gapped objective lens systems (e.g. doublets) with no internal elements should be used, due to the intense heat load as the light beam narrows into the wedge. In short, solar viewing is all about dumping the heat to protect one's scope / equipment and knocking down the intensity (along with filtering) to protect one's eyes. It is important to make sure the neutral density filter is in before solar viewing. Herschel wedges provide high contrast white light images of granules and sunspots like those in Figure 3, and vary in cost from $500 to $1,000.

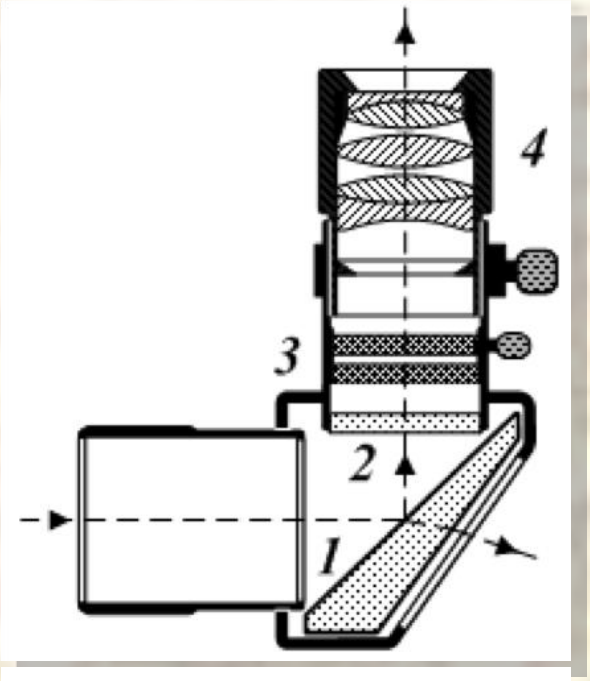


Fig. 2. Herschel wedge (1), with neutral density

Do you want to see granulation, sunspots, spicules, filaments, prominences … the whole nine yards!? Then the Hydrogen-alpha (Hα) filter is for you! It is tricky finding information on the interweb regarding Ha filters (or kits) and so it is worth some time explaining how they work and the different options out there. Hα is a very specific wavelength of light emitted as part of the Solar spectrum, corresponding to 656.28nm, which is in the red. Simple filters, such as a piece of green glass, absorbs all light except for a range of wavelengths, in the green part of the visible spectrum. Hα filters, however, require something more sophisticated, at the heart of which, is an *etalon* filter (or Fabry–Pérot interferometer) that uses constructive interference to pluck out a very specific wavelength. How does this work?

Let us consider someone being pushed on a swing at some frequency. If the pushes are timed just right, the swing will reach a maximum height, or resonance, which will diminish as the timing shifts away from this optimal pushing frequency. An etalon filter contains two closely spaced semi-transparent parallel mirrors facing each other. As light enters from one side, it is mostly reflected by the mirror on the opposite side. The width and index of refraction of the cavity is such that, as light is reflected back and forth between the mirrored surfaces, only a specific frequency of light is amplified, just like the swing analogy. For Hα, the design / resonance frequency corresponds to a wavelength of 656.28nm. (See Figure 4 on the following page.) Etalons

are sometimes referred to as *comb* filters as they produce a series of evenly spaced resonances about the design frequency. A blocking filter is used to select the design resonance, and to further reduce the intensity to save one's eyes.

It is important that light enters the cavity as parallel as possible, as non-parallel rays travel farther – back and forth – within the cavity and so are off resonance; as such, the optical system should have long f/ratios, f/17 or greater. So a typical Hα setup consists of a telecentric (preferably) Barlow, etalon, and blocking filter. Some systems have a UV/IR cut filter just upstream to reduce the heat load. For refractors with apertures larger than 75mm an Energy Rejection Filter (ERF), which attaches to the front of the telescope, should be used. Reflector telescopes can also be used, but do require an ERF to protect their innards. Bigger is not always better in this game, as atmospheric turbulence can greatly affect image contrast, and so the larger the scope the fewer the potential observing days. That being said, an adjustable iris can solve this problem (some reflectors have a lid with a small ERF entrance).

The sun is fickle, as the Hα-line is actually broadened due to doppler shifting caused by turbulence. The origin of the Hα-line is due to photon emission of an electron transitioning from the second to first excited state in a hydrogen atom. The wavelength of the emitted photon is stretched (red-shifted) or reduced (blue-shifted) depending if a hydrogen atom is moving away or towards us, respectively. As there is an abundance of hydrogen gas in the sun this leads to a broadening of the Hα-line. Depending on the phenomenon one wants to observe, such as, granules, sunspots, prominences, etc., there will be a bulk shift in frequency from the Hα-line; e.g. the downward motion of gas at the edges of convection cells (granules) causes an overall bulk red-shift from the Hα-line. Therefore, in order to enhance the observation of certain features, one needs the ability to tune the etalon filter off resonance.

There are three main brand-dependent ways of etalon tuning:

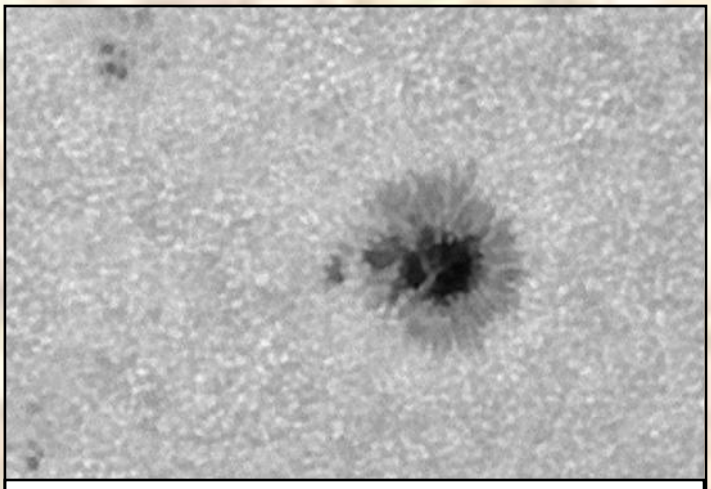


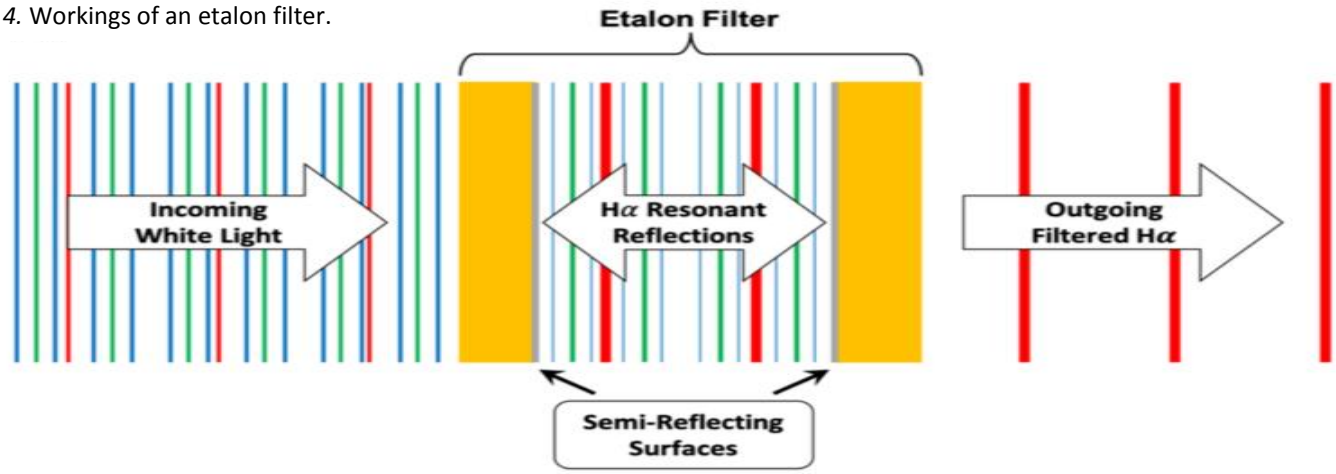
Fig. 3. A view through a Herschel wedge-equipped telescope, showing fine detail in a sunspot and the surrounding granulation. *[Image: john.purvis, CC BY 2.0]*

Coronado's tilt-tuning, Daystar's thermal-turning, and Lunt's pressure-tuning. Tilt-tuning is done by titling the etalon with respect to the incoming parallel rays of light. This has the effect of changing the path length within the etalon, thus changing its resonant frequency. Coronado makes dedicated solar scopes with etalon tilt-filters, just upstream of a diagonal blocking filter. Coronado provides both single and double stack versions. The double stack version has an extra tilt-filter at the aperture of the scope. Single stack is excellent for viewing prominences, and double stack is good for viewing fine surface details, but at lower light output due to double filtering. Coronado systems vary from about $1,000 to $12,000, depending on aperture and stacking.

Thermal-turning involves heating the etalon cavity, which expands it, changing the path length, and, therefore, its resonance frequency. Daystar provides an all-in-one 2"-eyepiece-sized dual-barrel filter containing a blocking filter, 4.2x telecentric Barlow, and a mica-gapped etalon filter. Daystar provides Quark prominence and chromospheric filters, optimized for viewing limb (edge) and surface features, respectively. Daystar Quarks come in at around

(continued on page 9)

Fig. 4. Workings of an etalon filter.



Regular Meeting Agendas

Regular meetings are usually held on the second Friday of each month in the Robert B. Schultz Lecture Theatre in St. John's College, 92 Dysart Road, on the University of Manitoba's Fort Garry Campus. To find the Schultz Theatre, From the front door go down the stairs to the left, then turn right and go down the hall until you reach the large open area with tables. The Theatre is on the right.

Regular meetings are "hybrid" meetings, with both in-person and online participation available. Members receive a meeting invitation with the Zoom link from the "rasc-main" forum on Groups.IO. The meetings are also live-streamed and archived on the Centre's YouTube channel at RASC Winnipeg.

After the meeting's conclusion, members are invited to retire to Boston Pizza on Pembina Highway south of Bison Drive for an informal social gathering. (This portion of the meeting is not available online or live-streamed.)

Friday, July 14, 2023—Annual BBQ

The July meeting is the Centre's annual BBQ, held at the Glenlea Observatory (see map on page XX). There will be several barbecues available, so bring your favorite grillables and sides for you and your family. Don't forget the mosquito repellant!

After the meal, training sessions will be held for both the Observatory and its 12" LX200 telescope, and the 14.5" Dobsonian which resides at Glenlea as well.

In case of inclement weather, watch for an email update through the Centres groups.io list for postponement and rescheduling details.

Friday, August 11, 2023—Regular Meeting

7:00 p.m. Beginner's Session - gAIL Wise, "Constellation of the Month"

7:30 p.m. Main Meeting

- Dennis Lyons, Welcome & Announcements
- Bryan Stach—"What's Up?" (the sky this month)
- "What's New" - (presenter TBD)
- **Main Speaker:** Mark Irvine—"A Hike to the Stars on Mount Lemmon, Arizona"

Other Events—July 2023

Friday, July 7: First Friday at the Planetarium

As part of the First Friday event in the Exchange District, the Manitoba Museum, Planetarium, and Science Gallery are open from 5 p.m. to 9 p.m. for free. Planetarium shows include live sky tours and the new show, *Worlds of Ice,* which follows the trail of ice, from its cultural and historic effects on the Innuit of northern Canada, to its role in the Earth's climate, and beyond Earth to ice's role in sustaining life across the solar system. For details and showtimes, visit the Manitoba Museum's website.

Friday, July 14, 2023 from 10am-noon:

Volunteers needed for solar observing outreach event—contact Kamala at kamala.kodi@gmail.com to volunteer.

Wednesday, July 26: Lockhart Planetarium Open House

The University of Manitoba's planetarium hosts an open house at 7:00 p.m. on the last Wednesday of each month (except December). The event is free but tickets should be reserved due to limited seating. Check the Lockhart Planetarium's website for details.

(NOTE: Oak Hammock Marsh astronomy nights are finished for the season and will resume in the fall; visit Oak Hammock Marsh for details.)

Off to Paradis(e)

by Judy Anderson

On May 27, more than twenty members gathered for a potluck BBQ in fond farewell to longtime members Paul and Brenda Paradis, who are relocating to Ontario (near Kingston) to be closer to family.

Paul and Brenda are long-standing members of the RASC – Winnipeg Centre. They've attended ALL the star parties at Spruce Woods Provincial Park over the years, and that's a lot! Paul is an avid telescope maker, and has displayed his home-crafted wooden octagonal reflectors he's built. He's also been an avid fisherman and wood carver for decades. Paul served as Observatory Director for many years, and has been on Council several times.

Our usual potluck format took place on a cloudy evening with a chance of rain in the forecast, but the clouds went toward the northwest, and we enjoyed the sunset together. Lots of conversation around the ever-widening circle of lawn chairs, and lots of reminiscing, for sure!

Of course, there was a cake for the two of them, on behalf of the Centre. And an interesting story went with it. The cake was ordered in advance, to be "topped" with a picture of Brenda and Paul that I'd taken at a previous SWSP event two or three years back. When we went to pick up the cake on our way to Glenlea for the BBQ, there was a photo of someone else on the cake! There wasn't much time before the BBQ began, and there was no way the picture could get printed now. After asking if there was any icing available, the clerk rolled out a trolley with a big bucket of white and a palette of icing colours, each in a pointy bag for decorating. Luckily, I had actually used them before! So, the trim got scraped off, and a coat of white icing got spread over the top to cover the picture of someone who will remain anonymous. The farewell words were squeezed onto the cake in a rush, a few stars were piped into the bare spots, and a row or two of trim was applied around the edges. Letters were a little uneven, but it tasted just fine. I think Paul and Brenda enjoyed the cake even more, because of the decorating adventure!

Paul was faithful in attending our regular meetings, and always at the breaks (this was in the "old days" when breaks included coffee and baking goodies), Paul would enjoy as much conversation as the timelines allowed – and was expert at balancing lemon squares and peanut butter cookies, too! He gave many of us his practical thoughts on telescopes or viewing, and always took an interest in the speakers and the astronomy news. His book collection was huge, and he had a lot of supplies to pack. He reluctantly did part with some books, while he carefully stowed all his telescopes and astronomy equipment, fishing rods, carving tools, and the majority of his books. Brenda left Paul to pack his own stuff, which was probably wise. They loaded up the U-Haul rental; Brenda drove it into Ontario with Paul following in the car, and have arrived safely in their new home.

Other Events—August 2023

Friday, August 4: First Friday at the Planetarium

As part of the First Friday event in the Exchange District, the Manitoba Museum, Planetarium, and Science Gallery are open from 5 p.m. to 9 p.m. for free. For details and showtimes, visit the Manitoba Museum's website.

Wednesday, August 30: Lockhart Planetarium Open House

The University of Manitoba's planetarium hosts an open house at 7:00 p.m. on the last Wednesday of each month (except December). The event is free but tickets should be reserved due to limited seating. Check the Lockhart Planetarium's website for details.

WHAT'S UP FOR JULY 2023

[Editor's note: Due to member requests I'm continuing this section in our newsletter. While much of the content will overlap with the content in the national Journal, this column will focus on local events and happenings.]

Planetary Highlights

On July 1, **Mars** is above and to the left of much brighter **Venus**, low in the evening twilight. Over the first 2 weeks of July the two planets appear within the same binocular field of view, moving in formation towards the bright star Regulus as they sink lower into the evening twilight. Mars passes within a degree of Regulus on the evenings of July 9th and 10th, but this will be very low and difficult to observe. During the third week of July the innermost planet **Mercury** joins the scene, reaching about the same altitude as Venus on the 19th and standing at its highest above the horizon about the 25th. These planets become very challenging targets as the month goes on as they sink lower into the bright twilight. What is the last day you can spot Mars, Mercury, and Venus?

Meanwhile, the two largest planets are at their best, such as it is this month, in the pre-dawn sky. **Saturn** rises near midnight at the beginning of the month and just after 10 p.m. by month's end, remaining relatively low in the sky amongst the stars of Aquarius. Much brighter **Jupiter** has emerged from solar twilight and is high in the southeast at dawn.

The Moon passes each of the planets in turn during its orbit around the Earth, helping to call attention to the planets and forming a nice photo opportunity. Precise details depend on your time zone and latitude, but the following events are applicable for most of southern Canada:

July 6-7: Saturn is 3 degrees above the waning gibbous Moon, rising near local midnight.

July 10-11: Jupiter is about 5 degrees away from the waning crescent moon in the pre-dawn sky.

July 19: A very thin waxing crescent Moon forms a triangle with Venus and Mercury, very low in the western twilight after sunset.

July 20: The crescent Moon has moved higher, above Mars, in the evening twilight.

Other events: The annual South Delta Aquariids meteor shower peaks a day before Full Moon, which will dramatically reduce the observed rate of meteors.

The Moon and Saturn will fit into the field of view of typical 7x50 binoculars on the night of July 6-7.

[Image: Stellarium]

What's Up for August 2023

Planetary Highlights

Venus, **Mars**, and **Mercury** either disappear or are very low in the evening sky at sunset. Venus finally disappears into the sunset, passing between us and the Sun on August 13th (an event called inferior conjunction). Much fainter **Mars** sticks around but will be difficult to spot without binoculars. **Mercury** reaches its greatest elongation east from the Sun on August 9th , but the angle of the ecliptic conspires to keep the innermost planet too low to be easily observable from Canadian latitudes.

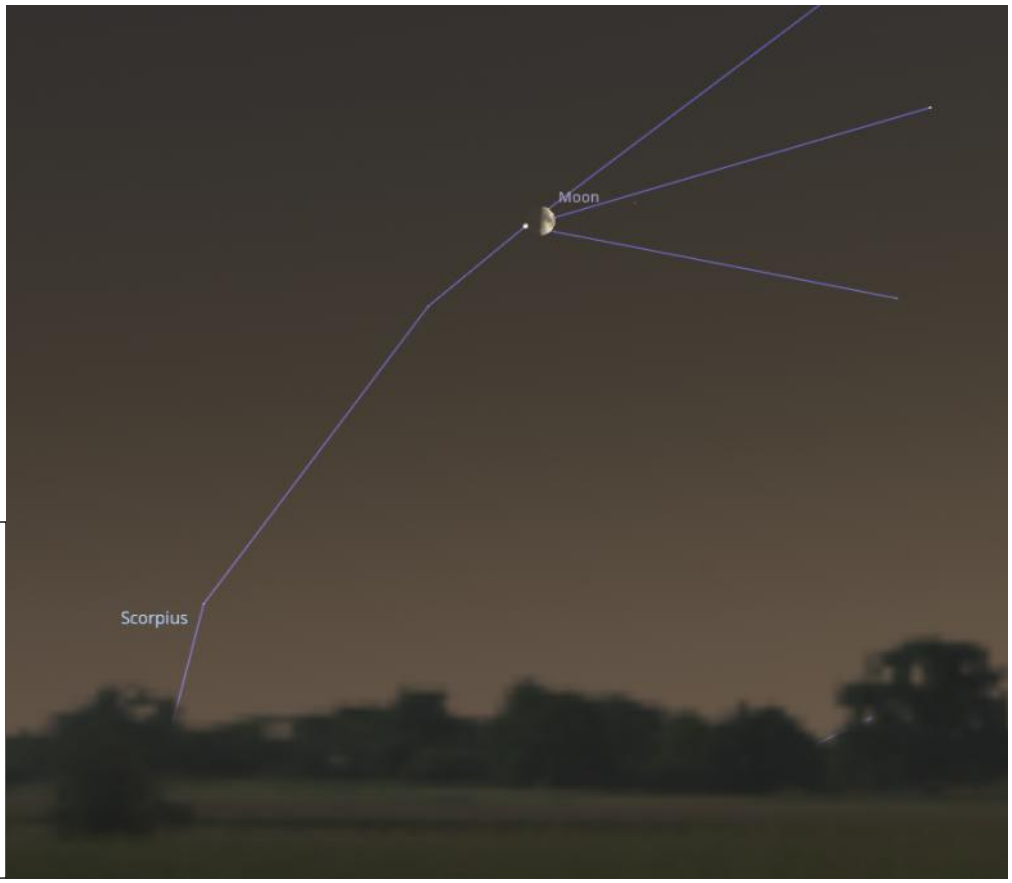
The planetary highlights finally transfer back to the gas giants. **Saturn** rises after 9 p.m. local time and is reasonably high in the southeast by midnight, giving many observers their first look at the rings this year (at least at a convenient hour!) By 3 a.m. Saturn is barely 28 degrees above the horizon, so for many Canadian observers it never truly clears the turbulent air close to the horizon. On August 27th Saturn reaches opposition, the point in its orbit when it is opposite the Sun and thus visible all night long.

Jupiter rises later but will get higher in the sky due to its more northerly position in our sky. In August, Jupiter is almost stationary in the sky, about 15 degrees from the Pleiades star cluster. It stands high in the south at dawn, making the last few hours of darkness the best time to observe the giant planet.

Events of Note:

August 12-13: The **annual Perseid meteor shower** coincides with both New Moon and the weekend, even falling on our regular members' observing session at Glenlea Observatory! This annual meteor shower is one of the most famous, if not one of the best, meteor showers of the year. The best time to observe will be after midnight on August 12th and into the pre-dawn hours of August 13th , when from a dark sky you might see a meteor every minute or so. Activity is usually decent on the night before and after the peak, in case you have clouds on the 13th .

August 24: Rare Antares Occultation! On August 24th , the first quarter Moon occults the bright star Antares in Scorpius. The occultation of a bright red star like Antares is spectacular, although for Winnipeg the event occurs with the Moon very low in the south-southwest only 12 degrees above the horizon. For details for your location, visit the International Occultation Timing Association's prediction at http://lunar-occultations.com/iota/bstar/0824zc2366.htm. IOTA also has observing guides and suggestions on how to observe and time the event as part of a citizen science effort.



The view a few minutes before 9 p.m. Central Time from Winnipeg on the evening of August 24, 2023. The dark side of the moon is about to occult the bright red star Antares (a bit after 9:03 p.m. CDT for Winnipeg). The Moon will only be 12 degrees above the horizon for observers in southern Manitoba, so you will need a clear horizon and clear skies to catch the disappearance. The star will reappear on the bright limb of the Moon about 72 minutes later, but the combination of low alititude and the bright moon will make this difficult to observe from Manitoba.

[Image: Stellarium]

(continued from page 5) Cdn $2,000, although they have research grade systems that can run as high as $50,000 (Baader provides similar systems). For large aperture refractors, be prepared to pay another $1,000 to $2,000 for an ERF. Pressure-tuning involves changing the pressure within the etalon cavity, which changes its index of refraction and, therefore, its resonance frequency. Lunt sells upstream etalon pressure-tuning and downstream blocking filters (straight-through or diagonal), as separate components to attach to the back of a telescope. Lunt systems can be configured as single or double stack, with the second filter placed at the objective. Lunt systems vary from about $3,000 to $16,000, varying from components to complete solar telescope kits. In summary, expect to pay $1,000 to $4,000 for a decent Hα kit.

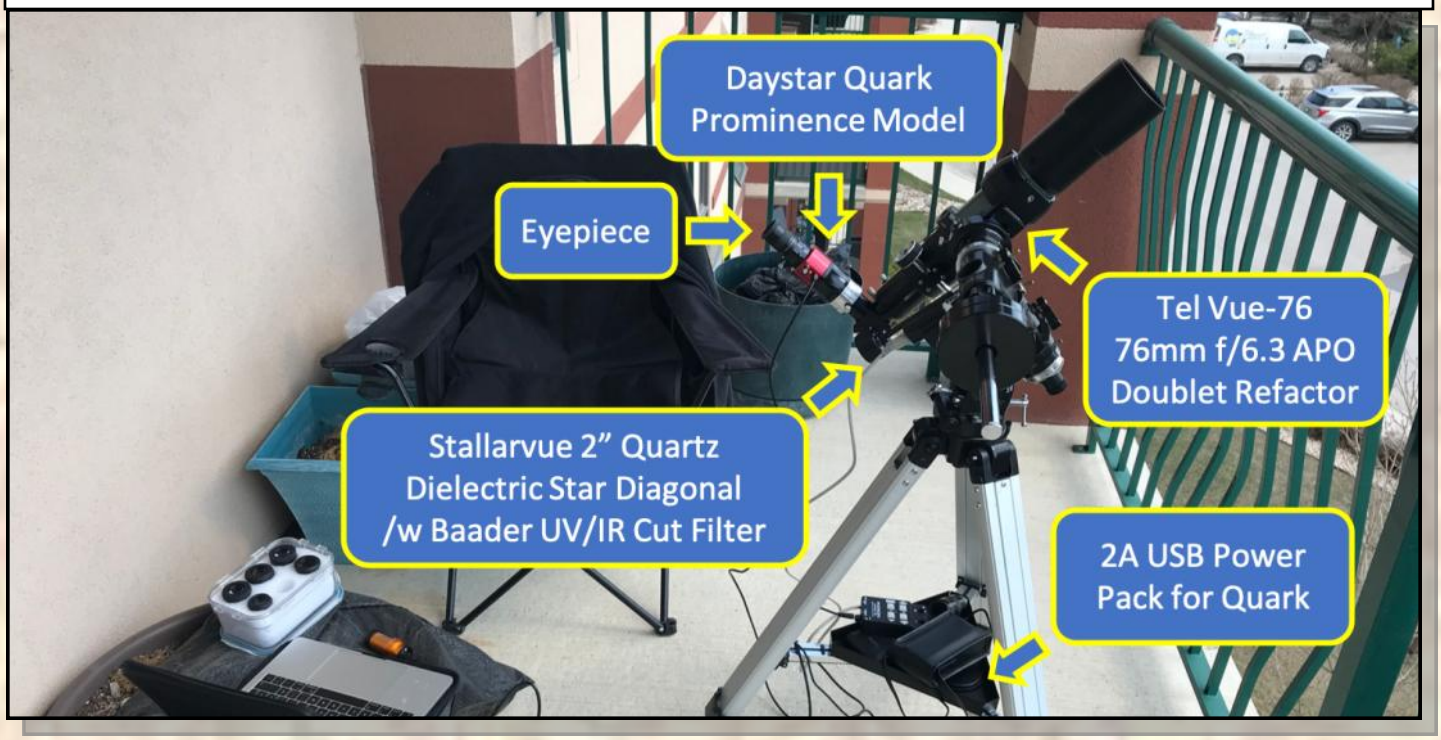
In this article we have covered the basic theory of solar filters, from thin films to Herschel wedges to Hα. The focus was mainly on Hα, as conceptually, these systems are complex and come in many varieties. There are other elation-based filters, such as, Hydrogen-beta (H□), Calcium H, Sodium D, Magnesium I b2, which are part of the Daystar Quark series, with a similar H□ price point. Daystar also sells research Helium D3 filters, however these come in around $27,000. Other companies sell such systems, however, not as varied as Daystar. Hopefully, this article will serve as a stepping stone for those who want to make a serious foray into solar observing. In our next article, we shall discuss solar photography.

Did You Know...

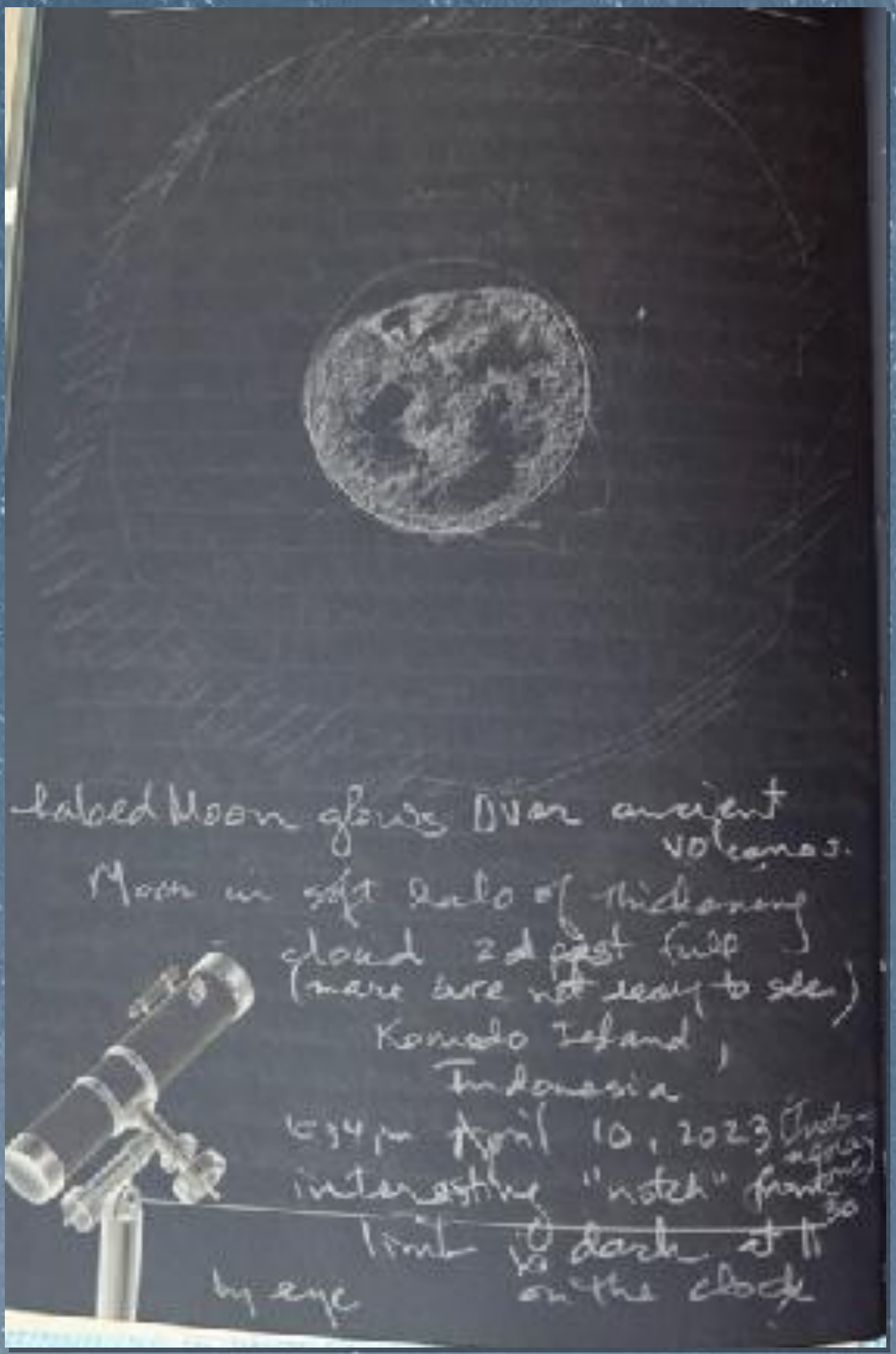
There are active subgroups within the Centre? You can join the Binocular group, the Astro-sketching group, the solar observers' group, and other special interest groups on the Centre's forums. It's a great place to share your experiences with gear, learn new techniques, or troubleshoot that annoying issue you've run into.

Sign in to https://rascwpg.groups.io with the email you used to register your membership (click on "forgot password" if it's your first time) and join the conversations!

Fig. 5. The authour's solar observing kit. The Hα conversion kit, consisting of the Daystar Quark, Baader UV/IR Cut filter, and power pack, came in at $2,084.49. The Quark has a FWHM of 0.1nm, which can be adjusted in steps of 0.01nm, runs on 5V 1.5A USB, and works best with f/4 to f/8 scopes. The UV/IR cut filter, at the entrance of the star diagonal, helps extend the life of the Quark. A TeleVue Sol-Searcher solar finder scope is used for locating the sun.



Members' Gallery



Left:

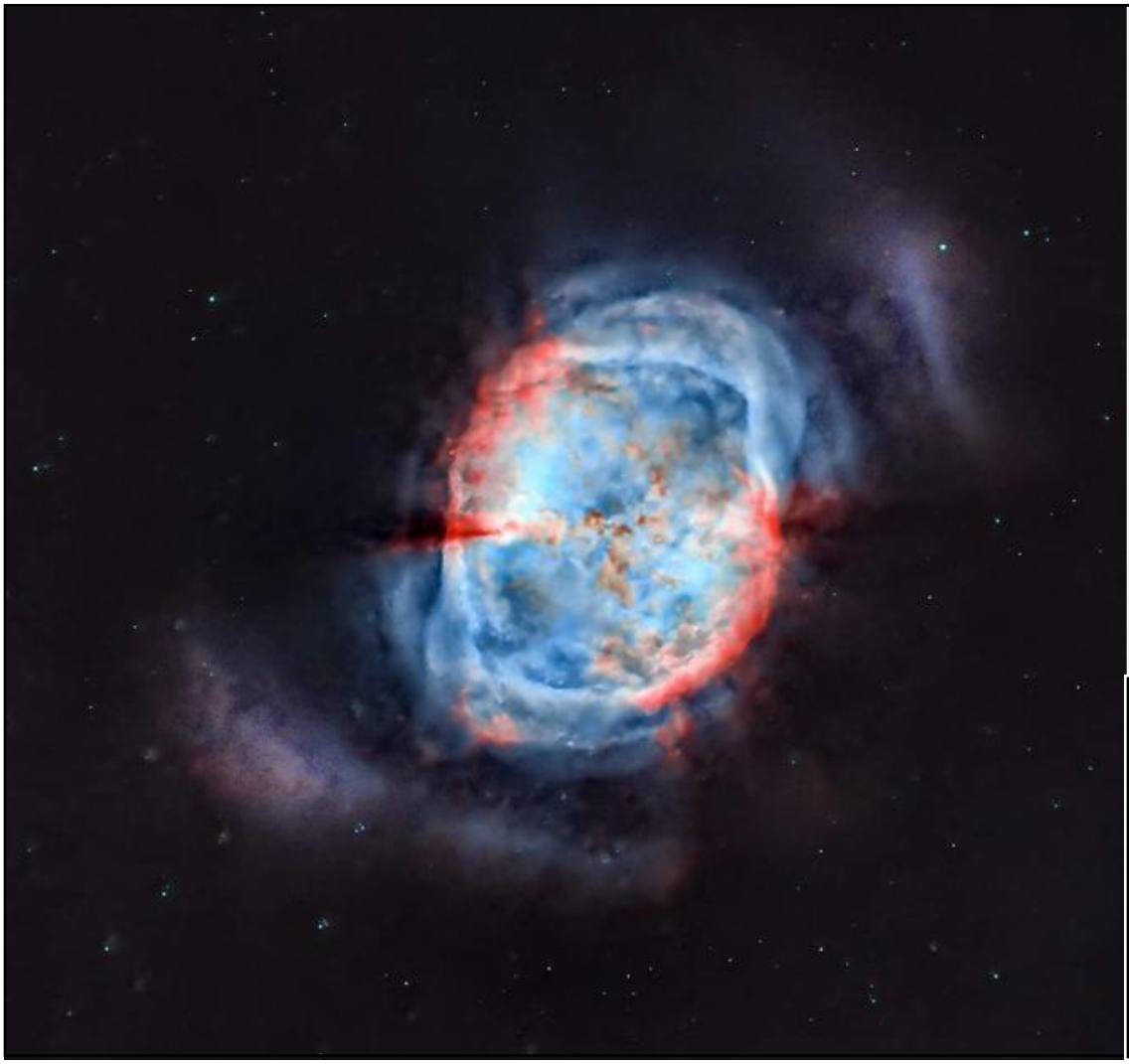
Judy Anderson sketched the moon producing a halo through thin clouds from her vantage point in Indonesia during their recent trip. (Image reversed from original graphite on pencil).

Facing page, top:
Mark Irvine captured the Bubble Nebula (NGC 7635) with a monochrome camera and a hydrogen alpha filter, which isolates the red light of the nebula and blocks most other light (including light pollution).

Facing page, bottom:
Ivan Yuen captured the rotation of the Earth in this shot of star trails at the Trappist Monastery ruins. Ivan used a Canon 6D and a 16mm lense, combining 852 five-second exposures at ISO800.

Members' Gallery (Continued)

Members' Gallery (Continued)



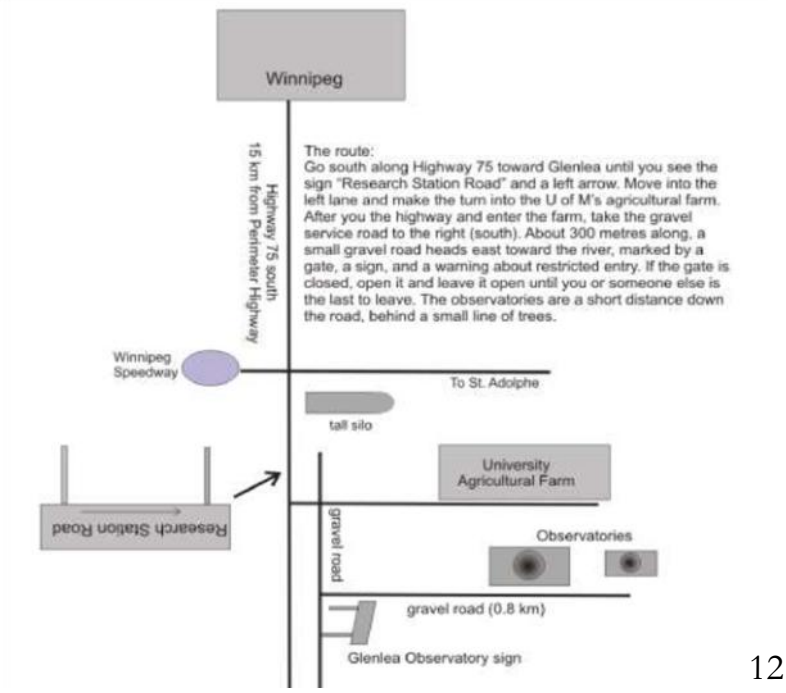
Dustin Haertel is a new Centre member but not new to astroimaging, as this image of the Dumbell Nebula (M27) shows. Taken from Glenlea Observatory, using Dustin's own Meade LX200 12" scope (the same model as the observatory's scope). 20 minutes through hydrogen alpha (red) and 17 minutes through oxygen-III (blue and green) using an Astcampan AP533MM-pro camera at f/5 for this composite HOO image.

Crescent Venus!

Glenlea Observatory

The Winnipeg Centre maintains a working observatory, pad, and warm room at the University of Manitoba's Research Farm. The observatory dome contains a 30cm (12") Meade LX200 telescope on a fork mounting. Members of the Centre who have taken the training course can reserve this telescope by emailing observatory@winnipeg.rasc.ca.

Etiquette requires that you approach the observing site with your headlights off if that's possible on your model of car. Headlights should remain off, but you can still use your parking lights to drive. Proceed slowly, and be careful about parked cars along the road, or people walking. If you cannot turn off your headlights, make a cardboard or garbage bag mask to dim the lights or, raise the parking brake lever one click-stop. This usually turns the headlights off on most, if not all, cars. You might wish to turn around at the end of the road so that you are facing the direction back toward the highway at the end of the evening.



GROUPS.IO: HOW TO USE THE CENTRE'S FORUMS AND E-MAIL LISTS

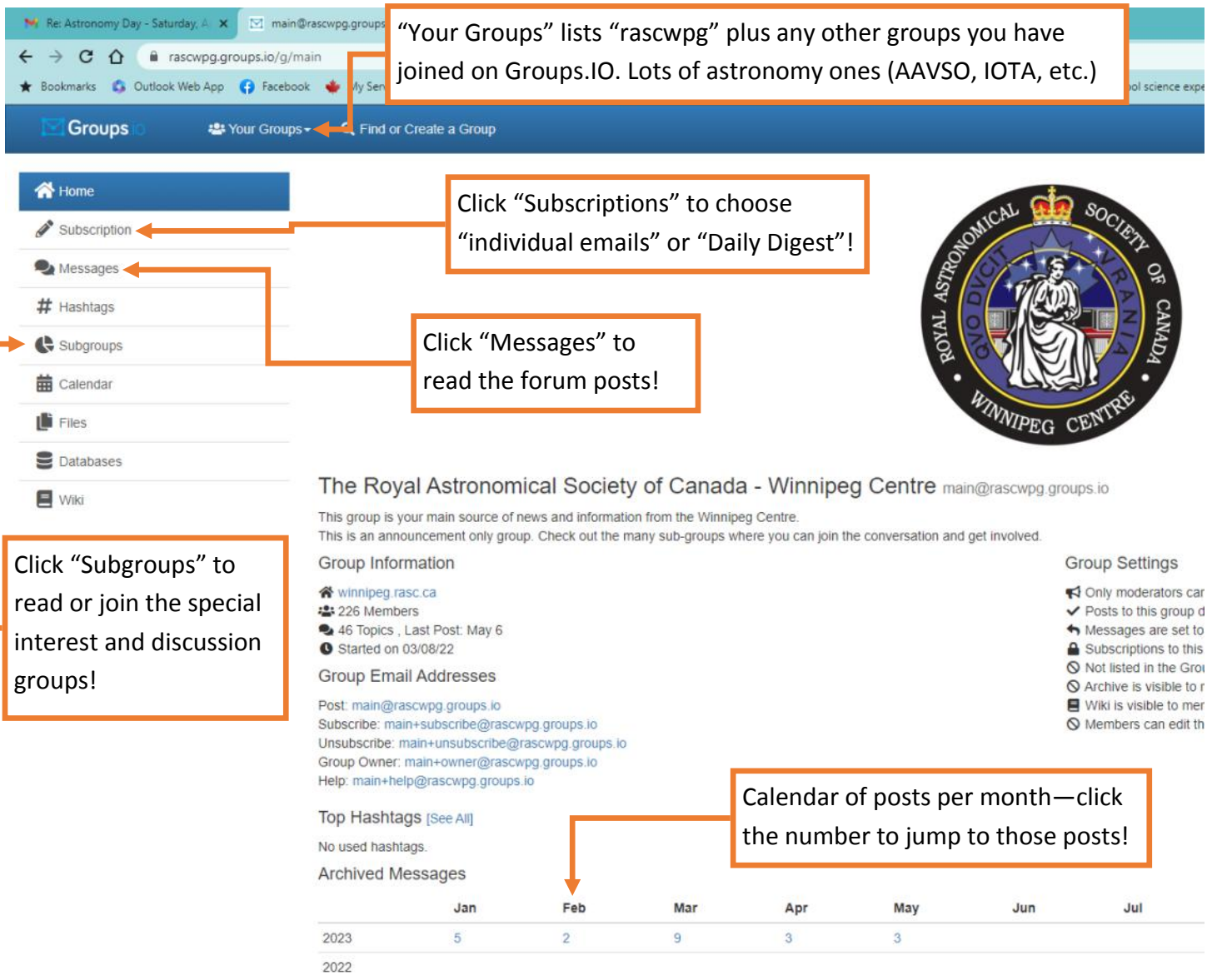
The Centre has moved to the Groups.IO platform for all of its forum and email services. This replaces the in-house forums and the old system of trying to mass-email all 200+ members. It really is a good system, both for the Council and for the users, but it is different and takes a bit of set-up.

If you've never used it before, it is very easy to access. Go to the website https://rascwpg.groups.io and click, "Forgot Password" when you are asked to log in. Enter the email that you used when you joined the Centre. You'll receive an email at that address telling you how to set up a password, and then you are good to go.

Once you've set up your password and logged in, you'll see a blue menu across the top of your screen. (See the next page for an annotated diagram.) If you click on "Your Groups", you will see that you are already subscribed to a group called "rascwpg.groups.io". This is the Centre's all-hands email, where we send meeting invitations, event news, and information we are required to send to all members (like calls for nominations for Board positions, news about the AGM, and so on).

When Council wants to send an email to everyone, they just make a post to this "main" group, and then everyone in the Centre gets an email. It helps prevent Centre mass emails from ending up in a spam folder or not getting through, and it also archives the email on the group where you can see it again. This "main" group can only be posted to by the Council Executive, and generates a few emails per month at most, so it shouldn't overwhelm most people with email.

(continued on page 11)



There's lots more than just the main announcement list, though. Click on "Subgroups" on the left-hand menu, and you'll be presented with a list of the various special interest forums attached to the rascwpg group. So far, there is a solar group, a sketching group, a binoculars group, a groups for posting astroimages,an armchair astronomy group, a buy & sell, an equipment discussion group, a solar system imaging group… you get the idea. If you are interested in a topic, click on that group and you'll be brought to that group's home page. You can click "join this group" here, and start getting the posts emailed to you, but you can also see how many messages have been posted in this group and even read them without joining. The calendar at the bottom shows how many posts were made each month, and by clicking on the number under a given month you will be shown the list of posts.

Some of the groups have a lot more discussion than others, though, and so you might not want 30 emails a day about a topic. Luckily, you can adjust the settings for each group. Go to the group you want to adjust, and click "Subscription" on the left-hand menu. This brings up the options for that group. You can elect to receive emails as individual messages as soon as they are posted—this is the best setting for the "rascwpg-main" group because it may contain timely information like a meeting change or observing session cancellation. For other groups where the information isn't time-sensitive, then "Daily Digest" is a good option—you'll only get one email a day from that group, containing all the posts that have been made that day. This prevents your email box from being flooded, but also sends you the content rather than you having to go look for it.

Every time someone posts to a group, every member of that group gets an email according to their personal settings. The emails are also archived, forming a valuable reference of the Centre's activities and discussions. There are some really good nuggets of wisdom in the forums already, and it would be a shame to lose them.

The key things to remember about Groups.IO:

⇒ **if you unsubscribe from the "rascwpg-main" group, you will not receive Centre emails**—this is the only way they are sent out! Please don't do this, or you will not receive important information like noties of meetings, calls for elections, and other important stuff,

⇒ Most conversation happens in the "rascwpg-general" forum, which roughly duplicates the function of the old RASC email list. Other groups are more focused in their topic. If you're not sure where to post a specific question or idea, "general" is the place for it.

⇒ You have to set your email preferences for each group—if you want daily digests, you have to set that up in the group's home page.

If you'd like help getting set up on Groups.IO, email newsletter@winnipeg.rasc.ca and we'll figure out a way to walk you through it.

Centre Member Benefits

As a paid member in good standing of the RASC Winnipeg Centre, you receive a number of benefits from the local group in addition to any benefits that come from the national Society. These include:

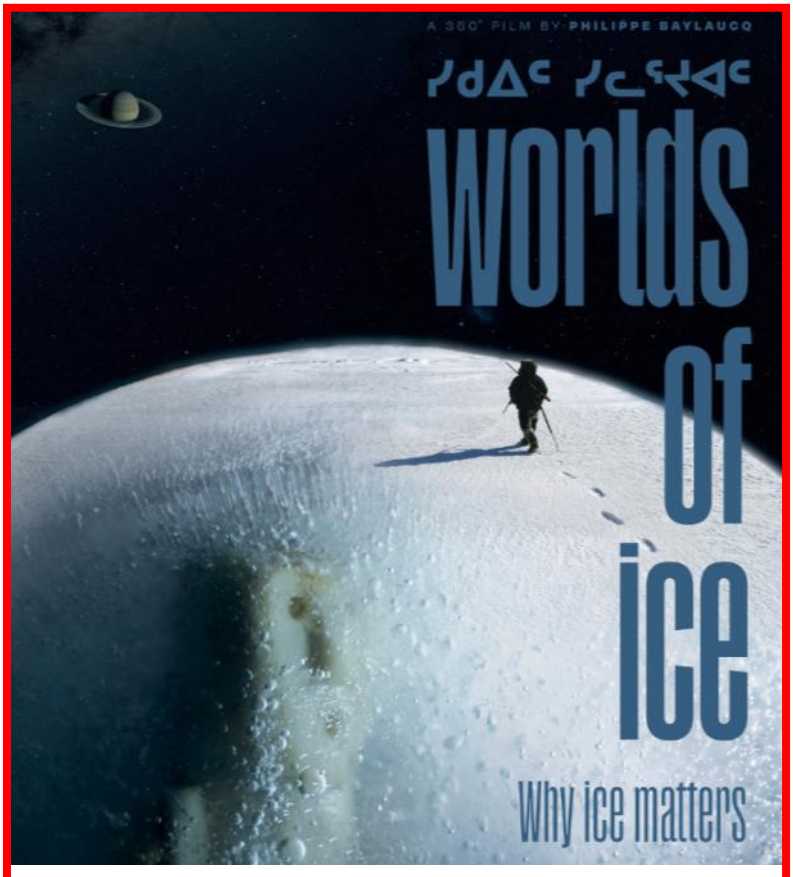
Access to the **Glenlea Observatory**, which houses a 12" Meade LX200 computer-controlled telescope under a dome, a 14.5" truss-tube Dobsonian reflector, and a warm room. There's also a concrete observing pad with power hook-ups to set up your own telescope. Member observing nights are held once a month (usually on the Saturday after the regular meeting), and members can use the observing pad and warm room any time. Once you've taken the training course you can also book the LX200 dome for your own use. (Booking the observatory can be done by sending an email to the Glenlea booking coordinator at observatory@winnipeg.rasc.ca.)

Telescope Lending Library: The Centre also has a number of portable telescopes that members can borrow on a first-come, first-served basis. The current inventory includes reflectors, refractors, and SCTs of various sizes, as well as some specialized gear such as a Coronado Personal Solar Telescope.

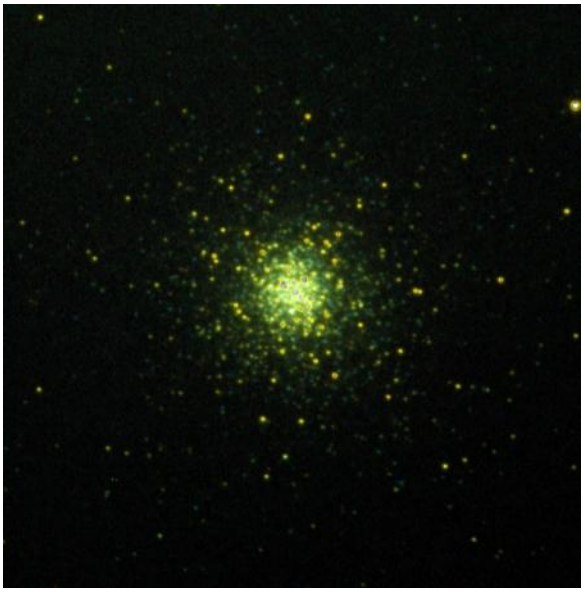
Spruce Woods Star Party: The highlight of the year, this weekend of observing and astronomy is available to Centre members and their families. The 2023 event is September 14-17 and registration will be available soon.

Online Forums: The Centre has a series of Forums on Groups.io, which all paid members are automatically subscribed to so they can receive announcements from the Centre. You can also sign up for other forums depending on your interest - go to Groups.io and sign in with the email address you used to sign up as a member.

Other local benefits such as attending **meetings** and **special events**, a **mentoring** program for beginners, this **newsletter**, **voting rights** at the Centre's Annual General Meeting (usually held in January each year), and **opportunity to serve** on the Centre Council – the group of folks who put together meetings and run the Centre!



Daily through Labour Day at 12:15 p.m. & 4:00 p.m. at the Manitoba Museum's Planetarium. ManitobaMuseum.CA for tickets and details.



Globular Cluster M3 is situated about midway between the bright star Arcturus and the handle of the Big Dipper, making it an excellent spring target. This image was taken through a Skywatcher 150P reflector at f/3.6 using a ZWO ASI187MM monochrome camera. 10 one-minute exposures were taken in red, green, and blue filters and the results combined to provide a colour image. *(Image: Scott Young)*